CUSTOMER NO. 22186 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Re: Attorney Docket No. Adler 01.01

In re application of: Richard M. Adler

Serial No.:	10/091,859	Group Art Unit:	3639
Filed:	03/06/02	Examiner:	Nathan Erb
Matter No.:	1099.001	Phone No.:	571-272-7606

For: System and Computer-Implemented Method for Modeling and Analyzing Strategic Decisions

APPELLANT'S BRIEF UNDER 37 CFR 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22213-1450

Dear Sir:

In response to the Final Office Action of July 14, 2006 and the Advisory Action of October 16, 2006, and further to the Notice of Appeal filed on November 14, 2006, Appellant/Applicant submits the following brief in support of the appeal:

02/23/2007 CNEGA1 00000027 10091859
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Certificate of First Class Mailing Under 37 CFR § 1.8

I hereby certify that this paper, together with all papers and fees referred to as transmitted, enclosed, or the like herewith, is being deposited with the United States Postal Service with sufficient postage as first class mail under 37 CFR 1.8 on the date indicated and is addressed to Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 22313-1450, Alexandria, VA 22313-1450.

Mary E. Caniz. Date: February 20, 2007.
Mary Caniz

APPELLANT'S BRIEF

1. REAL PARTY IN INTEREST

The real party in interest is sole inventor Richard M. Adler.

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

3. STATUS OF CLAIMS

Claims 64-121 are pending. Claims 1-63 were previously cancelled. The appealed claims are 64-121.

4. STATUS OF AMENDMENTS

No amendments were filed after the July 14, 2006 Final Office Action.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention provides a framework or platform to create custom executable applications that support decision-making in a wide variety of decision domains, including, e.g., those involving "business issues such as B2B [business-to-business] channel strategies, mergers & acquisitions, creating (or dropping) products, business units, or production capacity," as well as "strategic decision making in military, legislative, healthcare, environmental, political, and other non-business domains" (p. 15, lines 3-7). As the specification explains at p. 23, lines 8-16:

> The present invention's modeling and simulation frameworks are highly modular and adaptive, allowing entities, their attributes, and simulated behaviors and decision rules to be modified quickly and selectively. Thus, both models and simulations can be customized to fit

> decision-making in particular industries (e.g., factors and behaviors specific to chemical vs. steel markets). More radical changes allow the current embodiment of the invention to be applied to entirely different decision domains. For example, the constructs used to model B2B marketplaces and related behaviors can be removed, while models of regulatory bodies and business executives and their corresponding behaviors can be added, enabling the invention to help companies assess merger & acquisition decisions.

While the invention can be applied to practically any of the foregoing, or other decision-making domains, the principal examples provided in the specification relate to decision-making in the context of a B2B-marketplace domain.

In the present invention, the "domain model" is the framework for describing the decision domain making it possible to formulate or specify a plurality of different scenarios. As explained in the specification at p. 26, lines 6-10, "[s]pecifying the state of the world consists of defining the decision context or domain model for the strategic decision, as illustrated in Figure 1A, a top-level view of an exemplary modeling framework 19, illustrating its key elements and groupings used by one embodiment of the invention: the domain model 16, a plurality of decision options 14, and a plurality of scenarios 12." The specification further explains at p. 10, lines 10-16, that, in one exemplary embodiment, "[t]he domain model 16 identifies three kinds of elements: (1) the players that represent active agents in the decision domain, e.g., businesses and B2B marketplaces; (2) passive constructs that represent relevant, but non-autonomous objects in the decision domain, e.g., marketplace service offerings, products and services to be traded by businesses; and (3) environmental elements that characterize the underlying economic context or backdrop in which the players germane to the strategic decision interact, e.g., the economy, one or more markets." In this embodiment, "[a]ctive players have associated behaviors that enable them to modify their own state, behavior, and relationships with other domain model elements" (p. 26, lines 16-18).

The different "scenarios," which "specify known data and assumptions pertaining to the decision domain elements – players, passive and environmental objects," are then defined (p. 26, lines 19-21). Such assumptions "can either specify information about the initial time or they can represent trends, i.e., extrapolations of current conditions into the future" (p. 26, lines 22-23). As further explained at p. 27, lines 1-8, in one exemplary embodiment:

> Examples of scenario data and assumed trends include: the current market shares for businesses for particular trade items in a given market; the projected subscription rates for the charter members of a new B2B marketplace; the annual rate of inflation; and the annual rate of growth of trades within a market. Scenarios may also specify events, such as a hypothetical shortage of raw materials at some future time t_x, which may impact the economy, a market, its participating businesses, or some combination of these entities. Finally, scenarios specify the behavioral rules for domain model players (active agents), which will be described later in more detail.

Once the decision model has been selected and the scenarios are defined, a set of decision options to be assessed for each of the scenarios is then specified. As explained in the specification at p. 27, lines 10-15:

> Each decision option characterizes a possible strategy that the target business might pursue. In one exemplary embodiment, in the B2B marketplace setting, a business might define several courses of action: build their own B2B marketplace, join an existing marketplace-1, join some other marketplace-2, or both build a marketplace and join EMktplace1.

Finally, now that the decision model has been selected and its scenarios and decision options have been defined, as explained at p. 27, line 15 – p. 28, line 5:

> The simulation engine is then executed to project the states of world 13 at a future time $t+\delta t$ from the domain models, scenarios, and decision options. The simulator produces a record or trace for <u>each projection of a domain model, scenario, and decision combination</u>, from which various summary reports are generated. The outcomes of the alternative decisions in the different possible futures are then assessed in terms of a set of computed performance metrics presented in these reports 15. In the present context, exemplary aggregate metrics may include total transactions executed in a given B2B marketplace, total dollar value of those transactions, and levels of trust by businesses belonging to particular B2B marketplaces. Metrics may also be maintained for individual

businesses, recording individual trade transactions, utilization of other B2B marketplace services, and decisions to modify participation in the on-line marketplaces. Users assess and compare the pre-defined reports summarizing outcomes to identify the decision candidate that best fits their risk and reward objectives under the broadest possible set of scenarios.

Thus, the effects of different decisions can be projected for each of a plurality of scenarios (alternative futures) in a decision domain, and the results of making each of the different decisions can be compared, so that an optimal decision (one that leads to the most consistently favorable results) across the plurality of scenarios can be identified.

The subject matter defined in each of the independent claims, along with references to supporting portions of the specification, is set forth below:

Claim 64 recites a computer-implemented method for supporting decision-making, in one embodiment of the invention. The method includes the step of constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, and the model is constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains (e.g., p. 26, lines 5-18; p.34, lines 22-23). The method further includes the step of receiving user-specified (i) baseline scenario parameters defining a baseline scenario, (ii) scenario parameters defining one or more alternative scenarios, and (iii) decision parameters defining one or more candidate decisions (e.g., p. 26, line 19 – p. 27, line 15). Each scenario depicts a situation in the decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted (e.g., p. 26, line 19 – p. 27, line 8). Each of the one or more alternative scenarios represents a possible future into which the baseline scenario could evolve (e.g., p. 26, line 19 – p. 27, line 8). Each candidate decision represents an intervention for influencing the alternative scenario parameters

defining the one or more alternative scenarios (e.g., p. 27, lines 9-15). The method further includes the step of simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios (e.g., p. 27, line 16 – p. 28, line 8). The method further includes the step, for each candidate decision represented by the candidate decision parameters, of outputting simulation results based on the alternative scenario parameters corresponding to the simulated alternative scenarios at one or more future time instants (e.g., p. 27, line 16 – p. 28, line 8).

Claim 104 recites a computer system for supporting decision-making, in one embodiment of the invention. The system includes means (e.g., element 32 of FIG. 3; element 301 of FIG. 3A) for constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, and the model is constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains (e.g., p. 26, lines 5-18; p.34, lines 22-23). The system further includes means (e.g., element 37 of FIG. 3; element 302 of FIG. 3A) for receiving user-specified (i) baseline scenario parameters defining a baseline scenario, (ii) scenario parameters defining one or more alternative scenarios, and (iii) decision parameters defining one or more candidate decisions (e.g., p. 26, line 19 – p. 27, line 15). Each scenario depicts a situation in the decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted (e.g., p. 26, line 19 – p. 27, line 8). Each of the one or more alternative scenarios represents a possible future into which the baseline scenario could evolve (e.g., p. 26, line 19 – p. 27, line 8). Each candidate decision represents an intervention for influencing the alternative scenario parameters defining the one or more alternative scenarios (e.g., p. 27, lines 9-15). The system further includes means

(e.g., element 34 of FIG. 3; element 305 of FIG. 3A) for simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios (e.g., p. 27, line 16 – p. 28, line 8). The system further includes, for each candidate decision represented by the candidate decision parameters, means (e.g., elements 35 and 37 of FIG. 3; elements 304, 306, and 307 of FIG. 3A) for outputting simulation results based on the alternative scenario parameters corresponding to the simulated alternative scenarios at one or more future time instants (e.g., p. 27, line 16 – p. 28, line 8).

Claim 105 recites a machine-readable medium having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method for supporting decision-making, in one embodiment of the invention. The method includes the step of constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, and the model is constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains (e.g., p. 26, lines 5-18; p.34, lines 22-23). The method further includes the step of receiving user-specified (i) baseline scenario parameters defining a baseline scenario, (ii) scenario parameters defining one or more alternative scenarios, and (iii) decision parameters defining one or more candidate decisions (e.g., p. 26, line 19 – p. 27, line 15). Each scenario depicts a situation in the decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted (e.g., p. 26, line 19 – p. 27, line 8). Each of the one or more alternative scenarios represents a possible future into which the baseline scenario could evolve (e.g., p. 26, line 19 – p. 27, line 8). Each candidate decision represents an intervention for influencing the alternative scenario parameters defining the one or more alternative scenarios (e.g., p. 27, lines 9-15). The

method further includes the step of simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios (e.g., p. 27, line 16 – p. 28, line 8). The method further includes the step, for each candidate decision represented by the candidate decision parameters, of outputting simulation results based on the alternative scenario parameters corresponding to the simulated alternative scenarios at one or more future time instants (e.g., p. 27, line 16 – p. 28, line 8).

Claim 106 recites a computer-implemented method of constructing a decision-support application for a decision domain, in one embodiment of the invention. The method includes the step of constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain (e.g., p. 26, lines 5-18; p.34, lines 22-23). The decision model includes a plurality of decision-model entity classes (e.g., p. 40, line 16 – p. 41, line 5). The method further includes the step of creating specifications for linking the plurality of decision-model entity classes to a decision-support simulator framework (e.g., p. 57, line 2 – p. 60, line 22). The method further includes the step of populating an application database for the decision domain based on the plurality of decision-model entity classes (e.g., p. 32, lines 2-5). The method further includes the step of compiling the application database and the specifications to generate the decision-support application (e.g., p. 33, lines 10-19). The decision-support application is executable under the decision-support simulator framework (e.g., p. 27, lines 15-16).

Claim 113 recites a computer system for constructing a decision-support application for a decision domain, in one embodiment of the invention. The system includes means (e.g., element 32 of FIG. 3; element 301 of FIG. 3A) for constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain (e.g., p. 26, lines 5-18; p.34, lines 22-

23). The decision model includes a plurality of decision-model entity classes (e.g., p. 40, line 16 – p. 41, line 5). The system further includes means (e.g., elements 32, 33, 37 of FIG. 3; elements 301, 302 of FIG. 3A) for creating specifications for linking the plurality of decision-model entity classes to a decision-support simulator framework (e.g., p. 57, line 2 – p. 60, line 22). The system further includes means (e.g., element 32 of FIG. 3; element 301 of FIG. 3A) for populating an application database for the decision domain based on the plurality of decision-model entity classes (e.g., p. 32, lines 2-5). The system further includes means (e.g., elements 32, 33, 34 of FIG. 3; elements 302, 305 of FIG. 3A) for compiling the application database and the specifications to generate the decision-support application (e.g., p. 33, lines 10-19). The decision-support application is executable under the decision-support simulator framework (e.g., p. 27, lines 15-16).

Claim 114 recites a machine-readable medium, having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method for constructing a decision-support application for a decision domain, in one embodiment of the invention. The method includes the step of constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain (e.g., p. 26, lines 5-18; p.34, lines 22-23). The decision model includes a plurality of decision-model entity classes (e.g., p. 40, line 16 – p. 41, line 5). The method further includes the step of creating specifications for linking the plurality of decision-model entity classes to a decision-support simulator framework (e.g., p. 57, line 2 – p. 60, line 22). The method further includes the step of populating an application database for the decision domain based on the plurality of decision-model entity classes (e.g., p. 32, lines 2-5). The method further includes the step of compiling the application database and the specifications to generate the decision-support application (e.g., p. 33, lines 10-19). The

decision-support application is executable under the decision-support simulator framework (e.g., p. 27, lines 15-16).

Claim 115 recites a computer-implemented method of supporting decision-making, in one embodiment of the invention. The method includes the step of generating, based on user input, a plurality of alternative scenarios representing possible evolutions of a baseline scenario (e.g., p. 26, line 19 – p. 27, line 8). The method further includes the step of generating, based on user input, a plurality of strategies for influencing the alternative scenarios (e.g., p. 27, lines 9-15). The method further includes the step of simulating outcomes of each of the strategies for each of the alternative scenarios over time (e.g., p. 27, lines 15-16). The method further includes the step of providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies (e.g., p. 27, line 16 – p. 28, line 8).

Claim 120 recites a computer system for supporting decision-making, in one embodiment of the invention. The system includes means (e.g., elements 32, 33, 37 of FIG. 3; elements 301, 302 of FIG. 3A) for generating, based on user input, a plurality of alternative scenarios representing possible evolutions of a baseline scenario (e.g., p. 26, line 19 – p. 27, line 8). The system further includes means (e.g., elements 32, 33, 37 of FIG. 3; elements 301, 302 of FIG. 3A) for generating, based on user input, a plurality of strategies for influencing the alternative scenarios (e.g., p. 27, lines 9-15). The system further includes means (e.g., element 34 of FIG. 3; element 305 of FIG. 3A) for simulating outcomes of each of the strategies for each of the alternative scenarios over time (e.g., p. 27, lines 15-16). The system further includes means (e.g., elements 35, 37 of FIG. 3; elements 304, 306, and 307 of FIG. 3A) for providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies (e.g., p. 27, line 16 – p. 28, line 8).

Claim 121 recites a machine-readable medium, having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method of supporting decision-making, in one embodiment of the invention. The method includes the step of generating, based on user input, a plurality of alternative scenarios representing possible evolutions of a baseline scenario (e.g., p. 26, line 19 – p. 27, line 8). The method further includes the step of generating, based on user input, a plurality of strategies for influencing the alternative scenarios (e.g., p. 27, lines 9-15). The method further includes the step of simulating outcomes of each of the strategies for each of the alternative scenarios over time (e.g., p. 27, lines 15-16). The method further includes the step of providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies (e.g., p. 27, line 16 – p. 28, line 8).

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(A) Claims 64-68, 73-81, 89, 90, 99-110, 112-116, and 119-121 stand rejected as unpatentable under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,321,205 ("Eder");

(B) Claim 70 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 6,405,173 ("Honarvar");

(C) Claims 71, 72, and 111 stand rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 6,327,574 ("Kramer");

(D) Claim 82 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 5,953,707 ("Huang");

(E) Claim 117 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder;

(F) Claim 86 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent Application Pub. No. 2002/0065701 ("Kim");

(G) Claims 88 and 93 stand rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 5,850,538 ("Steinman");

(H) Claim 92 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent Application Pub. No. 2002/0099598 ("Eicher");

(I) Claim 94 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 6,212,502 ("Ball");

(J) Claim 97 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 5,761,486 ("Watanabe"); and

(K) Claim 118 stands rejected as unpatentable under 35 U.S.C. §103(a) as being obvious over Eder in view of U.S. Patent No. 6,990,437 ("Abu El Ata").

7. ARGUMENT

All of the pending claims (64-121) stand rejected over Eder, either alone or in combination with other references. Eder discloses software for calculating the financial valuation of an enterprise, based on a combination of user-specified and inferred (induced from data analysis) value drivers (i.e. parameters that correlate with performance) and for allowing users to vary those parameters and to project performance via a static formula. This is a top-down approach that ignores the actual mechanisms (business processes, individual behaviors) that drive performance bottom-up. Eder's outputs, i.e., financial performance metrics, are fixed,

and Eder is only concerned with a closed system, namely, the enterprise whose value is being determined. However, various aspects of the present invention, as defined in the various pending claims, include, *inter alia*, providing (a) a platform for creating multiple applications in multiple decision domains, (b) support for qualitative, uncertain, and relational, as well as quantitative attributes, as both inputs and outputs, (c) a means to describe behaviors, including goals and adaptive behaviors of parties responding to their environment and behaviors of other actors, which drives a bottom-up approach to predicting performance or other non-financial outcomes, (d) an explicit methodology for making decisions (running multiple strategies with multiple scenarios of the environment and picking the one that performs the best) and for lifecycle support, and (e) the ability to deal with the enterprise in relation to the dynamic outside world. Eder does not disclose or suggest any of aspects (a) through (e) of the present invention, as defined in the various pending claims, and as discussed in further detail below.

(A) CLAIMS 64-68, 73-81, 89, 90, 99-110, 112-116, AND 119-121 ARE NOVEL OVER EDER

(1) Claims 64-68, 73-81, 89, 90, and 99-105 Are Novel Over Eder

Claim 64 recites, *inter alia*, "(a) constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, the model constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains." These features are described in the specification at, e.g., p. 19, lines 18-19; p. 22, line 16 – p. 23, line 16; p. 31, lines 16-19; and p. 80, line 11 – p. 82, line 6. For example, as the specification explains at p. 23, lines 8-16:

> The present invention's modeling and simulation frameworks are highly modular and adaptive, allowing entities, their attributes, and simulated behaviors and decision rules to be modified quickly and selectively. Thus, both models and simulations can be

> customized to fit decision-making in particular industries (e.g., factors and behaviors specific to chemical vs. steel markets). More radical changes allow the current embodiment of the invention to be applied to entirely different decision domains. For example, the constructs used to model B2B marketplaces and related behaviors can be removed, while models of regulatory bodies and business executives and their corresponding behaviors can be added, enabling the invention to help companies assess merger & acquisition decisions.

The Applicant's decision-making framework (or platform) can support strategic decision-making in a wide variety of decision domains, including those involving "business issues such as B2B channel strategies, mergers & acquisitions, creating (or dropping) products, business units, or production capacity," as well as "strategic decision making in military, legislative, healthcare, environmental, political, and other non-business domains" (p. 15, lines 3-7).

The domain model is the framework for describing the decision domain, making it possible to formulate or specify a plurality of different scenarios. As explained in the specification at p. 26, lines 6-10, "[s]pecifying the state of the world consists of defining the decision context or domain model for the strategic decision, as illustrated in Figure 1A, a top-level view of an exemplary modeling framework 19, illustrating its key elements and groupings used by one embodiment of the invention: the domain model 16, a plurality of decision options 14, and a plurality of scenarios 12." The specification further explains at p. 10, lines 10-16, that, in one exemplary embodiment, "[t]he domain model 16 identifies three kinds of elements: (1) the players that represent active agents in the decision domain, e.g., businesses and B2B marketplaces; (2) passive constructs that represent relevant, but non-autonomous objects in the decision domain, e.g., marketplace service offerings, products and services to be traded by businesses; and (3) environmental elements that characterize the underlying economic context or backdrop in which the players germane to the strategic decision interact, e.g., the economy, one

or more markets." In this embodiment, "[a]ctive players have associated behaviors that enable them to modify their own state, behavior, and relationships with other domain model elements" (p. 26, lines 16-18).

The different scenarios, which "specify known data and assumptions pertaining to the decision domain elements – players, passive and environmental objects," are then defined (p. 26, lines 19-21). Such assumptions "can either specify information about the initial time or they can represent trends, i.e., extrapolations of current conditions into the future" (p. 26, lines 22-23). As further explained at p. 27, lines 1-8, in one exemplary embodiment:

> Examples of scenario data and assumed trends include: the current market shares for businesses for particular trade items in a given market; the projected subscription rates for the charter members of a new B2B marketplace; the annual rate of inflation; and the annual rate of growth of trades within a market. Scenarios may also specify events, such as a hypothetical shortage of raw materials at some future time t_x, which may impact the economy, a market, its participating businesses, or some combination of these entities. Finally, scenarios specify the behavioral rules for domain model players (active agents), which will be described later in more detail.

Once the decision model has been selected and the scenarios are defined, a set of decision options to be assessed for each of the scenarios is then specified. As explained in the specification at p. 27, lines 10-15:

> Each decision option characterizes a possible strategy that the target business might pursue. In one exemplary embodiment, in the B2B marketplace setting, a business might define several courses of action: build their own B2B marketplace, join an existing marketplace-1, join some other marketplace-2, or both build a marketplace and join EMktplace1.

Finally, now that the decision model has been selected and its scenarios and decision options have been defined, as explained at p. 27, line 15 – p. 28, line 5:

> The simulation engine is then executed to project the states of world 13 at a future time $t+\delta t$ from the domain models, scenarios, and decision options. The simulator produces a record or trace for <u>each projection of a domain model, scenario, and decision</u>

combination, from which various summary reports are generated. The outcomes of the alternative decisions in the different possible futures are then assessed in terms of a set of computed performance metrics presented in these reports 15. In the present context, exemplary aggregate metrics may include total transactions executed in a given B2B marketplace, total dollar value of those transactions, and levels of trust by businesses belonging to particular B2B marketplaces. Metrics may also be maintained for individual businesses, recording individual trade transactions, utilization of other B2B marketplace services, and decisions to modify participation in the on-line marketplaces. Users assess and compare the pre-defined reports summarizing outcomes to identify the decision candidate that best fits their risk and reward objectives under the broadest possible set of scenarios.

Thus, the effects of different decisions can be projected for each of a plurality of scenarios (alternative futures) in a decision domain, and the potential results of making each of the different decisions can be compared, so that an optimal decision (one that leads to the most consistently favorable results) across the plurality of scenarios can be identified.

The Examiner cites col. 5, line 31 to col. 6, line 25, of Eder as purportedly teaching either or both of (i) a plurality of decision domains and (ii) a plurality of scenarios, asserting that this portion of the specification "shows the valuations used to create the reference's model; there are known methods of performing valuations that the reference's valuation methods must have been chosen from."

In the 10/16/06 Advisory Action (the "Advisory Action"), the Examiner argues that Eder discloses "selecting a predefined model of a decision domain from among a plurality of predefined models of decision domains" (p. 2, pgh. 3). However, nowhere does Eder disclose making any such selection. Eder teaches only a single decision domain, i.e., the decision domain of financial valuation of a commercial enterprise (col. 5, lines 1-11). Eder teaches only a single software application defined by a single model that calculates and displays a forecast of the impact of user-specified or system generated changes in business value drivers on other value

drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). This is a single model, i.e., a single decision domain. In contrast, claim 64 recites a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains." While Eder teaches a single software application that handles a single decision domain model, the framework of the present invention, as claimed in claim 64, provides a framework for handling multiple domain models (e.g., business-related domains, such as B2B channel strategies, mergers & acquisitions, creating or dropping products, business units, or production capacity; and/or non-business domains, such as strategic decision-making in military, legislative, healthcare, environmental, or political domains) from which one predefined domain model is selected.

In Eder's database tables, only a single set of attributes or "value drivers" (shown, e.g., in Eder's FIG. 2) is stored for a single decision-making domain. These attributes are predefined in Eder's software application and represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The present invention, however, supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains.

The single-domain software application of Eder is not analogous to the multiple-domain framework of the present invention, which permits the creation of limitless different software applications like Eder's for a wide variety of decision domains. While Eder merely gives us a fish, the Applicant gives us a fishing pole. Since Eder fails to disclose a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains," Eder cannot anticipate claim 64.

Moreover, Eder fails to disclose a plurality of scenarios in the decision domain. The portion of the specification cited by the Examiner (col. 5, line 31 to col. 6, line 25) is a table (Table 1) that merely discloses a plurality of algorithms that are used in a single scenario during the execution of Eder's simulator. In fact, Eder even teaches away from the use of running multiple scenarios as in claim 64. Eder avoids running a plurality of simulations by consistently using the enterprise elements and valuation methodologies set forth in the table, rather than varying such factors to create different scenarios that can be compared with one another. Indeed, Eder states that "[u]ncertainty over which method is being used for completing the analysis and the resulting inability to compare different simulations is eliminated in the present invention by consistently utilizing different valuation methodologies for valuing the different elements of the enterprise as shown in Table 1" (col. 5, lines 32-37). In other words, Eder presumes that software or a user would be unable to compare the results from different scenarios, so Eder eliminates the use of different scenarios altogether and instead opts for a single scenario using the valuation methods provided in Table 1. In contrast, in the invention as claimed in claim 64, the success of a decision strategy is assessed and compared across multiple scenarios, since it cannot be known in advance which of the scenarios will represent what actually will happen in the future.

The only mention of the plural term "scenarios" is found in the portion of Eder that describes growth option valuation (col. 31, line 11 – col. 37, line 19), wherein these so-called "scenarios" are analyzed as part of the growth-option valuation process to arrive at a valuation for a given growth option. These so-called "scenarios" discussed in this portion of Eder are limited to the analysis of growth options and do not meet the limitations of several aspects of claim 64. In this context, each of the so-called "scenarios" (i) do not "depict[] a situation in the

decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted" and (ii) do not "represent a possible future into which the baseline scenario could evolve," and (iii) there are no candidate decisions, each of which "represents an intervention for influencing the alternative scenario parameters defining the one or more alternative scenarios" – all three of the foregoing being features recited in claim 64.

Since Eder fails to disclose a plurality of scenarios in a decision domain, Eder also fails to disclose additional features of claim 64, including, e.g.:

> (c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios; and
>
> (d) for each candidate decision represented by the candidate decision parameters, outputting simulation results based on the alternative scenario parameters corresponding to the simulated alternative scenarios at one or more future time instants.

In Eder, there is no simulation of the projected results of making different decisions for one or more alternative scenarios (as in step (c)) – there is only simulation of the results of making different decisions for a single scenario. In particular, regarding step (c), Eder's approach involves the use of a static behavioral model. Eder describes how, when one or more value drivers are set to certain numeric values, the remaining numeric value drivers change. There are no "candidate decisions" that are being "test-driven" to see how these decisions affect each of the alternative scenarios, as is the case in the present invention, as claimed in claim 64. The present invention provides a dynamic behavioral model – in other words, the candidate decisions represent behaviors of actors or entities in the simulation, and the effects of making these decisions or exercising these behaviors can be seen for a plurality of different possible future sets of circumstances or scenarios. Modeling the behavior of a plurality of third-party actors or

entities is not part of Eder's static behavioral model, which only models characteristics of a single entity – the enterprise whose financial value is being described. Thus, Eder does not teach a step of "simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios," as recited in step (c) of claim 64.

Moreover, because results of only a single scenario are being projected in Eder, there is no outputting of simulation results for each decision across alternative scenarios (as in step (d)) – there is only the outputting of simulation results for a single scenario.

In the Advisory Action, the Examiner, for the first time, argues that "the language of claim 64 repeatedly refers to "one OR more alternative scenarios" and that "even a program which only addresses a single scenario is embraced by the language of the claim" (p. 2, pgh. 4). This is plainly incorrect, because claim 64 recites both a baseline scenario AND one or more alternative scenarios, i.e., at least TWO scenarios. Thus, contrary to the Examiner's assertions, a single-scenario program, such as that of Eder, cannot possibly read on claim 64.

Since Eder does not disclose (i) a plurality of predefined decision domains from which a user can select a decision domain, nor (ii) a plurality of scenarios in the decision domain, nor (iii) simulating each of one or more alternative scenarios as influenced by candidate decisions, nor (iv) outputting simulation results based on alternative scenario parameters corresponding to simulated alternative scenarios at one or more future time instants, it cannot be said that Eder anticipates claim 64. For similar reasons, claims 104 and 105 are novel over Eder. Since claims 65-68, 73-81, 89, 90, and 99-103 depend from claim 64, it is further submitted that those claims are also novel over Eder.

(2) Claims 106-110 and 112-114 Are Novel Over Eder

Claim 106 recites, *inter alia*, "(a) constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain" and "(d) compiling the application database and the specifications to generate the decision-support application, wherein the decision-support application is executable under the decision-support simulator framework."

The Examiner asserts that Eder discloses (i) the creation of a plurality of scenarios in the decision domain and (ii) the compiling of an application database and specifications to generate an executable decision-support application.

In the Advisory Action, the Examiner argues that Eder "does specify a program, which can be run multiple times, with a different scenario defined each time" (p. 2, pgh. 6). The suggestion that a decision domain model for creating a plurality of scenarios is equivalent to simply running Eder's program multiple times, with a different scenario defined each time, is a concept fabricated by the Examiner and unsupported by Eder. As discussed above with respect to claim 64, the notion of constructing a decision domain model for creating a plurality of scenarios is nowhere disclosed or even suggested in Eder, (and, as discussed above, Eder even explicitly teaches away from and rejects this approach/methodology at col. 5, lines 32-37), because Eder's decision domain model is for only a single scenario. Eder presumes that software or a user would be unable to compare the results from different scenarios, so Eder eliminates the use of different scenarios altogether and instead opts for a single scenario using the valuation methods provided in Table 1.

Moreover, in the Advisory Action, the Examiner further argues that step (d) "is disclosed by Eder in that this step would have to be performed to arrive at the program of Eder which is capable of the functions of that program disclosed by Eder" and that "[w]hile Eder does not

disclose creating other applications different from its own program, the language of the claim does not preclude the creation of an application like that of Eder" (p. 2, pgh. 7). However, nowhere does Eder disclose or even suggest compiling an application database and specifications to generate an executable decision-support application. Rather, Eder teaches a single application defined by a single model that calculates and displays a forecast of the impact of user-specified or system-generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). Unlike the invention as recited in claim 106, which enables the creation of a custom application to assist in the decision-making process, Eder is limited to a single application for a single purpose, whose specifications are set forth in the specification of Eder's patent application. The suggestion that there might hypothetically be some implementation of Eder's invention that would involve compiling code is a fabrication of the Examiner, and not a teaching or suggestion of Eder.

Since Eder does not disclose (i) a plurality of scenarios in the decision domain, nor (ii) compiling an application database and specifications to generate an executable decision-support application, it cannot be said that Eder anticipates claim 106. For similar reasons, claims 113 and 114 are novel over Eder. Since claims 107-110 and 112 depend from claim 106, it is further submitted that those claims are also novel over Eder.

(3) Claims 115, 116, and 119-121 Are Novel Over Eder

Claim 115 recites, *inter alia*:

(a) generating, based on user input, a plurality of alternative scenarios representing possible evolutions of a baseline scenario;

(b) generating, based on user input, a plurality of strategies for influencing the alternative scenarios;

(c) simulating outcomes of each of the strategies for each of the alternative scenarios over time; and

(d) providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies.

As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of alternative scenarios in a decision domain, and the Applicant reasserts these arguments for claim 115. Since Eder fails to disclose a plurality of alternative scenarios in a decision domain, Eder also fails to disclose additional features of claim 115, including, e.g.:

(c) simulating outcomes of each of the strategies for each of the alternative scenarios over time; and

(d) providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies.

In Eder, there is no simulation of the projected outcomes of employing different strategies that influence each a plurality of alternative scenarios (as in step (c)) – there is only simulation of the projected outcome of employing different strategies for a single scenario. Because outcomes of only a single scenario are being projected in Eder, there is no provision of output data to permit comparison of simulated outcomes for each of the strategies (as in step (d)) – there is only the provision of output data of the simulation outcome for a single scenario.

Since Eder does not disclose (i) a plurality of alternative scenarios in the decision domain, nor (iii) simulating outcomes of each of the strategies for each of a plurality of alternative scenarios over time, nor (iv) providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies, it cannot be said that Eder anticipates claim 115. For similar reasons, claims 120 and 121 are novel over Eder. Since

claims 116 and 119 depend from claim 115, it is further submitted that those claims are also novel over Eder.

(4) Claims 65 and 107 Are Novel Over Eder

Claim 65 recites:

> 65. The invention of claim 64, wherein, for a user to construct a user-specified scenario, the predefined model for the decision domain defines:
>
> (1) one or more types of entities defining one or more types of people, places, things, events, and decision strategies in the decision domain,
>
> (2) one or more attributes for each entity type representing one or more (i) properties of the entity type and (ii) relationships between entity types, and
>
> (3) one or more dynamic behaviors of people, places, things, events, and decision strategies representing sources of change in the decision domain, the dynamic behaviors representing one or more ways entities (i) change over time and (ii) interact with each other, the one or more dynamic behaviors being ascribed to one or more entity types that depict people, places, things, and decision strategies.

The Examiner asserts that Eder discloses the underlined portions of claim 65 at col. 5, line 31, through col. 6, line 25. In the Advisory Action, the Examiner argues that "one of the decisions to be tested in the invention of Eder might be the effect on a business's value of reducing the amount of inventory by fifty percent. That particular decision would be a decision strategy" (p. 2, pgh. 5). This example of a "decision strategy" is fabricated by the Examiner and is nowhere disclosed or even suggested in Eder. The only portion of Eder to which the Examiner cites (col. 5, line 31 – col. 6, line 25) is a table (Table 1) showing various valuation methodologies for valuing different elements of an enterprise. The attributes of these elements are represented by what Eder refers to as "value drivers" having static, numerical values. Since Eder is concerned only with financial valuation, a single set of numerical value drivers is sufficient to model the enterprise in determining its financial value. On the other hand, the present invention, as claimed in claim 65, is capable of modeling multiple actors or entities in a variety of decision domains.

Each actor or entity has its own independent dynamic behaviors (typically purpose-driven and possibly adaptive changes of state, and relationships over time), in stark contrast to Eder's static numbers. Thus, the present invention, as claimed in claim 65, takes into account strategies (such as investment strategies, behavioral responses, etc.) followed by these actors or entities. As explained in the specification at p. 32, line 15, to p. 33, line 6:

> Behavioral rules are code modules that capture programmatically simulated actions of domain players or interactions between domain players. Examples of behavioral rules include: (1) simulation of B2B marketplace processes for trading goods and services between businesses via fixed-price catalog sales or Request For Quotation (RFQ) models; (2) simulation of utilization of other value-added marketplace services by member businesses, such as sourcing or on-line payment; (3) decision rules that simulate how businesses change their participation in B2B marketplaces, e.g., increase trading, subscribe to new services, withdraw from a marketplace, join a new marketplace); (4) business rules that simulate how markets evolve (through aggregate growth or shrinkage, as well as from individual business transformations such as formation, closures, mergers and acquisitions); and (5) business rules that simulate how external events impact the simulated environment (economy and market) and the model's constituent players (e.g., natural disasters that result in shortages of materials and price increases; production stoppages, regulatory changes, mergers of specific businesses).

The simulation of Eder does not take into account independent dynamic behaviors of a plurality of actors or entities and is simply not capable of modeling such behaviors, due to the fact that Eder uses only a single set of numerical value drivers for determining financial valuation. As discussed above with respect to claim 64, Eder's approach involves the use of a static behavioral model. Eder describes how, when one or more value drivers are set to certain numeric values, the remaining numeric value drivers change. There are no "dynamic behaviors" that are being "test-driven" to see how these behaviors affect each of the alternative scenarios, as is the case in the present invention, as claimed in claim 65. The present invention provides a dynamic behavioral model – in other words, the candidate decisions represent behaviors of actors or entities in the simulation, and the effects of making these decisions or exercising these behaviors

can be seen for a plurality of different possible future sets of circumstances or scenarios. Eder's static behavioral model does not permit this to be done for a plurality of entities or actors – Eder's decision domain model describes only a single entity, the enterprise, and its behaviors for purposes of valuation. Eder does not at all teach a decision domain model that includes "one or more dynamic behaviors of people, places, things, events, and decision strategies representing sources of change in the decision domain, the dynamic behaviors representing one or more ways entities (i) change over time and (ii) interact with each other, the one or more dynamic behaviors being ascribed to one or more entity types that depict people, places, things, and decision strategies," as claimed in claim 65. Thus, Eder cannot be said to anticipate claim 65.

For similar reasons, claim 107, which recites that "each entity class [is] further defined by ... (iii) one or more class interfaces defining methods representing entity behaviors and dynamic interactions," is also novel over Eder. The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claims 65 and 107 are allowable over Eder.

(5) Claim 67 Is Novel Over Eder

Claim 67 recites, *inter alia*, that "each of the one or more alternative scenarios corresponds to assumptions about one or more situational forces, trends, events, and entity behaviors that drive a plausible alternative evolution of the baseline scenario over one or more future time instants." The Examiner asserts that Eder, at col. 46, line 46 through col. 47, line 8, discloses this feature. The Applicant respectfully submits that Eder does not disclose any such feature. For ease of reference, this cited portion of Eder is reproduced below:

> The operation of the software in block 854 is dependent upon the input stored in the scenario table (184). If the user has specified changes in value drivers and is seeking to understand the probable impact of these changes on the other value drivers, the financial performance and the future value of the enterprise, then the software in block 854 iterates the model as required to ensure the convergence of the frequency distribution

of the output variables. Alternatively, if the user specified a specific level of future financial performance and is seeking a recommendation regarding changes to be made, then the simulation is run in a goal seeking mode. In either case after the simulation calculations have been completed, the software in block 854 saves the resulting information in the scenario table (184) before processing advances to a software block 855.

The software in block 855 displays the results of the simulation to the user (20) via a Value Mentor™ display data window (920) that uses a summary Value Map™ format to display the mid point and the range of estimated future values for the various elements of the enterprise and the changes in value drivers, user-specified or system generated, that drove the future value estimate. The user (20) is also prompted to indicate when the examination of the displayed report is complete. When the user (20) indicates that the examination is complete, processing advances to a software block 856. The software in block 856 prompts the user via a Value Mentor™ report data window (922) to indicated if any additional reports should be printed. The information entered by the user (20) is entered in to the reports table (172) before processing advances to a block 857.

As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 67. Eder discloses a simulation that involves only a single scenario. The foregoing portion of Eder, at best, discloses the use of a single scenario, stored in a single scenario table 184. Nothing in this passage discloses the use of more than one scenario, let alone a plurality of scenarios wherein each scenario corresponds to assumptions about one or more situational forces, trends, events, and entity behaviors that drive a plausible alternative evolution of the baseline scenario over one or more future time instants.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 67 is allowable over Eder.

(6) Claims 73 and 74 Are Novel Over Eder

Claim 73 recites, *inter alia*, that "the simulation of step (c) is based on situational dynamics including one or more behavioral rules, formulas, trends, and algorithmic methods characterizing changes in one or more alternative scenario parameters caused by one or more

behaviors of one or more entities." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 73. Eder discloses a simulation that involves only a single scenario. The cited portion of Eder (col. 5, line 31 – col. 6, line 25; col. 46, line 46 – col. 47, line 8), at best, discloses a simulation that involves a single scenario, stored in a single scenario table 184. There are no "alternative scenarios" or "alternative scenario parameters" in Eder.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 73 is allowable over Eder. Since claim 74 depends from claim 73, it is further submitted that this claim is also novel over Eder for the same reasons discussed above with reference to claim 73.

(7) Claim 74 Is Novel Over Eder

Claim 74 recites, *inter alia*, that "the situational dynamics are specified either (i) as pre-defined elements in the decision domain model, (ii) via user-specified attribute parameters, or (iii) both pre-defined elements in the decision domain model and via user-specified attribute parameters." The Examiner cites col. 5, line 31 – col. 6, line 25 of Eder as purportedly disclosing the foregoing, but the cited portion, reproduced below for ease of reference, discloses nothing about user-specified attribute parameters:

TABLE 1

Enterprise element		Valuation methodology
*Excess Cash & Marketable Securities		GAAP
*Total current-operation value (COPTOT):		Income valuation*
Current-operation:	Cash & Marketable Securities CASH	GAAP
Current-operation:	Accounts Receivable (AR)	GAAP
Current-operation:	Inventory (IN)	GAAP
Current-operation:	Prepaid Expenses (PE)	GAAP
Current-operation:	Production Equipment (PEQ)	If correlation value > liquidation value, then use correlation valuation, else use liquidation value
Current-operation:	Other Physical Assets (OPA)	Liquidation Value
Current-operation:	Other Assets (OA)	GAAP
Current-operation:	Intangible Assets (IA):	
	Customers	Correlation to component(s) of value
	Employees	Correlation to component(s) of value
	Vendor Relationships	Correlation to component(s) of value
	Strategic Partnerships	Correlation to component(s) of value
	Brand Names	Correlation to component(s) of value

TABLE 1-continued

Enterprise element		Valuation methodology
	Other Intangibles	Correlation to component(s) of value
Current-operation:	General going concern value (GCV)	GCV = COPTOT - CASH - AR - IN - PE - PEQ - OPA - OA - IA
*Growth options		Option pricing algorithms

*The user also has the option of specifying the total value

The value of an enterprise operation is calculated by summing items from Table 1 as shown in Table 2.

TABLE 2

Enterprise Value =
Current value of enterprise excess cash and marketable securities
+
Value of current-operation
+
Value of growth options

In the Advisory Action, the Examiner argues that, in Table 1, "there are input values such as 'excess cash & marketable securities' which are clearly user-specific and would need to be specified by the user" (p. 2, pgh. 8). However, claim 74 recites user-specified attribute parameters, not user-specified values for predefined attribute parameters, as the Examiner suggests. The attribute parameters in Table 1 are all predetermined and fixed attribute parameters, not user-specified attribute parameters. The attribute parameters in Table 1 are predefined in Eder's software application and represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The software of Eder provides these parameters for the user, and there is no provision in Eder for a user to specify his or her own parameters. This is because, as argued above with respect to claim 64, Eder does not disclose the ability to handle multiple decision-making domains.

Eder teaches only a single decision domain, i.e., the decision domain of financial valuation of a commercial enterprise (col. 5, lines 1-11). Eder teaches only a single software application defined by a single model that calculates and displays a forecast of the impact of

user-specified or system generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). This is a single model, i.e., a single decision domain. In contrast, claim 64 recites a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains." While Eder teaches a single software application that handles a single decision domain model, the framework of the present invention, as claimed in claim 64, provides a framework for handling multiple domain models (e.g., business-related domains, such as B2B channel strategies, mergers & acquisitions, creating or dropping products, business units, or production capacity; and/or non-business domains, such as strategic decision-making in military, legislative, healthcare, environmental, or political domains) from which one predefined domain model is selected.

Unlike Eder, the present invention as claimed in claim 74 supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains. This is one reason why "user-specified attribute parameters" for specifying situational dynamics is recited in claim 74. Another reason is to permit users to define new parameters on the fly within a single decision model. Eder has no need for user-specified parameters because Eder is a fixed framework for a single domain, namely, the financial valuation of an enterprise.

As can plainly be seen from Table 1, above, these parameters are all predetermined and fixed attribute parameters, not user-specified attribute parameters. In Eder's database tables, only a single set of attributes or "value drivers" (shown, e.g., in Eder's FIG. 2) is stored for a single decision-making domain. These attributes are predefined in Eder's software application and

represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The present invention, however, supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains. This is the reason why user-specified parameters for specifying situational dynamics is recited in claim 74. Eder has no need for user-specified parameters because Eder is a fixed framework for a single domain, namely, the financial valuation of an enterprise.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 74 is allowable over Eder.

(8) Claim 75 Is Novel Over Eder

Claim 75 recites, *inter alia*, "storing persistently, for each candidate decision represented by the candidate decision parameters, scenario parameters corresponding to baseline and alternative scenarios received in step (b)." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 75. Eder discloses a simulation that involves only a single scenario. The cited portion of Eder (col. 8, line 26 – col. 9, line 2) is reproduced below for ease of reference:

> All extracted information concerning revenue, expenses, capital and elements of value is stored in a file or table (hereinafter, table) within an application database (50) as shown in FIG. 2. The application database (50) contains tables for storing user input, extracted information and system calculations including a system settings table (140), a revenue data table (141), an expense data table (142), a capital data table (143), an equity data table (144), a physical asset ID table (145), an asset liquidation price table (146), an account number structure table (147), an equity forecast table (148), a data dictionary table (149), a revenue component definition table (150), an expense component definition table (151), a capital component definition table (152), an element of value definition table (153), a sub-element definition table (154), an enterprise definition table (155), a composite variable table (156), a sub-element weights table (157), a revenue model gene

table (158), a revenue model weights table (159), an expense model gene table (160), an expense model weights table (161), a capital model gene table (162), a capital model weights table (163), a revenue component percentage table (164), an expense component percentage table (165), a capital component percentage table (166), a composite variable location table (167), a composite variable data table (168), a normalized composite variable data table (169), an enterprise value table (170), an economic equity values table (171), a reports table (172), a tax data table (173), a debt data table (174), a growth option definition table (175), a growth option overlap table (176), a growth option scenario table (177), a growth option value table (178), a revenue driver table (179), an expense driver table (180), a capital driver table (181), an excluded variable table (182), a driver genes table (183) and a scenario table (184). The application database (50) can optionally exist as a datamart, data warehouse or departmental warehouse. The system of the present invention has the ability to accept and store supplemental or primary data directly from user input, a data warehouse or other electronic files in addition to receiving data from the databases described previously. The system of the present invention also has the ability to complete the necessary calculations without receiving data from one or more of the specified databases. However, in the preferred embodiment all required information is obtained from the specified databases (5,10, 15, 30, 35 & 40).

While the foregoing passage does disclose storage of various types of data, it does not disclose the storage of data for a simulation that involves more than a single scenario. There are no "baseline" or "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no storage of "scenario parameters corresponding to baseline and alternative scenarios." This is because, as argued above with respect to claim 64, Eder does not disclose the ability to handle multiple decision-making domains. Eder teaches only a single decision domain, i.e., the decision domain of financial valuation of a commercial enterprise (col. 5, lines 1-11). Eder teaches only a single software application defined by a single model that calculates and displays a forecast of the impact of user-specified or system generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). This is a single model, i.e., a single decision domain. In contrast, claim 75 recites "storing persistently, for each candidate decision represented by the candidate decision parameters,

scenario parameters corresponding to baseline and alternative scenarios received in step (b)." The "baseline and alternative scenarios received in step (b)" of claim 64 are user-specified, and are part of a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains."

While Eder teaches a single software application that handles a single decision domain model, the framework of the present invention, as claimed in claim 64, provides a framework for handling multiple domain models (e.g., business-related domains, such as B2B channel strategies, mergers & acquisitions, creating or dropping products, business units, or production capacity; and/or non-business domains, such as strategic decision-making in military, legislative, healthcare, environmental, or political domains) from which one predefined domain model is selected.

In Eder's database tables, only a single set of attributes or "value drivers" (shown, e.g., in Eder's FIG. 2) is stored for a single decision-making domain. These attributes are predefined in Eder's software application and represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The present invention, however, supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains. This is the reason why the storage of user-specified scenarios is recited in claim 75. Eder has no need for user-specified scenarios because Eder is a fixed framework for a single domain, namely, the financial valuation of an enterprise.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 75 is allowable over Eder.

(9) Claim 76 Is Novel Over Eder

Claim 76 recites, *inter alia*, "storing persistently, for outputs produced by simulations of alternative scenarios and candidate decisions over one or more future time instants, all changes in scenario entities and attribute parameters of the scenario entities simulated in step (c)." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 76. While the passages cited by the Examiner (col. 8, line 26 – col. 9, line 2; col. 46, line 46 – col. 47, line 8) do disclose storage of various types of data, they do not disclose the storage of output data for a simulation that involves more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no storage, "for outputs produced by simulations of alternative scenarios and candidate decisions over one or more future time instants, all changes in scenario entities and attribute parameters of the scenario entities simulated in step (c)."

This is because, as argued above with respect to claim 64, Eder does not disclose the ability to handle multiple decision-making domains. Eder teaches only a single decision domain, i.e., the decision domain of financial valuation of a commercial enterprise (col. 5, lines 1-11). Eder teaches only a single software application defined by a single model that calculates and displays a forecast of the impact of user-specified or system generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). This is a single model, i.e., a single decision domain. In contrast, claim 76 recites "storing persistently, for outputs produced by simulations of alternative scenarios and candidate decisions over one or more future time instants, all changes in scenario entities and attribute

parameters of the scenario entities simulated in step (c)" of claim 64, which are user-specified scenarios and decisions and are part of a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains."

While Eder teaches a single software application that handles a single decision domain model, the framework of the present invention, as claimed in claim 64, provides a framework for handling multiple domain models (e.g., business-related domains, such as B2B channel strategies, mergers & acquisitions, creating or dropping products, business units, or production capacity; and/or non-business domains, such as strategic decision-making in military, legislative, healthcare, environmental, or political domains) from which one predefined domain model is selected.

In Eder's database tables, only a single set of attributes or "value drivers" (shown, e.g., in Eder's FIG. 2) is stored for a single decision-making domain. These attributes are predefined in Eder's software application and represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The present invention, however, supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains. This is the reason why the storage of user-specified changes in scenarios and attribute parameters is recited in claim 76. Eder has no need for user-specified scenarios or attribute parameters because Eder is a fixed framework for a single domain, namely, the financial valuation of an enterprise.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 76 is allowable over Eder.

(10) Claims 77-79 Are Novel Over Eder

Claim 77 recites, *inter alia*, "graphically displaying one or more summaries of changes in alternative scenario parameters corresponding to the simulated alternative scenarios over one or more future time instants for purposes of analyzing projected outcomes of simulated candidate decisions." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 77. The passage cited by the Examiner (col. 46, line 46 – col. 47, line 8) does not disclose the graphical display of changes in alternative scenario parameters, because the simulation disclosed in Eder involves no more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no graphical display of "summaries of changes in alternative scenario parameters corresponding to the simulated alternative scenarios over one or more future time instants."

This is because, as argued above with respect to claim 64, Eder does not disclose the ability to handle multiple decision-making domains. Eder teaches only a single decision domain, i.e., the decision domain of financial valuation of a commercial enterprise (col. 5, lines 1-11). Eder teaches only a single software application defined by a single model that calculates and displays a forecast of the impact of user-specified or system generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). This is a single model, i.e., a single decision domain. In contrast, claim 77 recites "graphically displaying one or more summaries of changes in alternative scenario parameters corresponding to the simulated alternative scenarios over one or more future time instants for purposes of analyzing projected outcomes of simulated candidate decisions." The alternative

scenarios and parameters, as recited in claim 64, are user-specified scenarios and decisions and are part of a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains."

While Eder teaches a single software application that handles a single decision domain model, the framework of the present invention, as claimed in claim 64, provides a framework for handling multiple domain models (e.g., business-related domains, such as B2B channel strategies, mergers & acquisitions, creating or dropping products, business units, or production capacity; and/or non-business domains, such as strategic decision-making in military, legislative, healthcare, environmental, or political domains) from which one predefined domain model is selected.

In Eder's invention, only a single set of reports for attributes or "value drivers" (shown, e.g., in Eder's FIG. 2) is generated for a single decision-making domain. These attributes are predefined in Eder's software application and represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The present invention, however, supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains. This is the reason why the graphic display of summaries of changes in alternative scenario parameters is recited in claim 77. Eder has no need for user-specified graphic summaries of different scenarios or parameters from different domain models because Eder is a fixed framework for a single domain, namely, the financial valuation of an enterprise.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 77 is allowable over Eder. Since claims 78 and 79 depend from claim 77, it is further submitted that these claims are also novel over Eder for the same reasons discussed

above with reference to claim 77.

(11) Claim 79 Is Novel Over Eder

Claim 79 recites, *inter alia*, that "the summaries enable comparative analysis of one or more differences, strengths and weaknesses of candidate decisions in achieving desired results across alternative scenarios." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 79. The passage cited by the Examiner (col. 46, line 46 – col. 47, line 8) does not disclose summaries that "enable comparative analysis of one or more differences, strengths and weaknesses of candidate decisions in achieving desired results across alternative scenarios," because the simulation disclosed in Eder involves no more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no summaries that "enable comparative analysis of one or more differences, strengths and weaknesses of candidate decisions in achieving desired results across alternative scenarios."

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 79 is allowable over Eder.

(12) Claim 100 Is Novel Over Eder

Claim 100 recites, *inter alia*, that "the analyses include one or more (i) graphic time series and histogram charts of scenario attributes and (ii) tabular reports summarizing changes in entity attribute parameter values over one or more future time instants." These analytics allow comparison of outcomes for one or more candidate strategies across one or more scenarios within a given decision model. The Examiner cites Figure 14 and col. 46, line 46, through col. 47, line 8 of Eder as allegedly disclosing that "the analyses include one or more tabular reports summarizing changes in entity attribute parameters over one or more future time instants."

However, items (i) and (ii) of claim 100 are recited in the conjunctive ("one or more (i) and (ii)"), not the disjunctive ("one or more (i) or (ii)"). Thus, one or more "(i) graphic time series and histogram charts of scenario attributes" and one or more "(ii) tabular reports" are required. Since Eder fails to disclose at all the use of "graphic time series and histogram charts of scenario attributes," Eder cannot anticipate claim 100.

Moreover, as argued above with respect to claim 64, Eder does not disclose the ability to handle multiple decision-making domains. Eder teaches only a single decision domain, i.e., the decision domain of financial valuation of a commercial enterprise (col. 5, lines 1-11). Eder teaches only a single software application defined by a single model that calculates and displays a forecast of the impact of user-specified or system generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). This is a single model, i.e., a single decision domain. In contrast, claim 100 recites analyses that include "one or more (i) graphic time series and histogram charts of scenario attributes and (ii) tabular reports summarizing changes in entity attribute parameter values over one or more future time instants." The scenario attributes, as recited in claim 64, are user-specified scenario attributes and are part of a decision domain model "constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains."

While Eder teaches a single software application that handles a single decision domain model, the framework of the present invention, as claimed in claim 64, provides a framework for handling multiple domain models (e.g., business-related domains, such as B2B channel strategies, mergers & acquisitions, creating or dropping products, business units, or production capacity; and/or non-business domains, such as strategic decision-making in military, legislative,

healthcare, environmental, or political domains) from which one predefined domain model is selected.

In Eder's invention, only a single set of reports for attributes or "value drivers" (shown, e.g., in Eder's FIG. 2) is stored for a single decision-making domain. These attributes are predefined in Eder's software application and represent various elements of a business enterprise that are involved in financial valuation of the enterprise. The present invention, however, supports multiple database tables for storing multiple attributes of multiple decision domains, which could range, e.g., from business-related decisions to political, military, or healthcare-related domains. This is the reason why analyses including "one or more (i) graphic time series and histogram charts of [user-specified] scenario attributes and (ii) tabular reports summarizing changes in [user-specified] entity attribute parameter values over one or more future time instants" are recited in claim 100. Eder has no need for user-specified analyses of different scenarios or parameters from different domain models because Eder is a fixed framework for a single domain, namely, the financial valuation of an enterprise.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 100 is allowable over Eder.

(13) Claim 101 Is Novel Over Eder

Claim 101 recites, *inter alia*, that "the analyses permit comparison of entity attribute parameter values over one or more future time instants across simulation runs of different candidate decisions under alternative scenarios." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 101. The passages cited by the Examiner (Figure 14; col. 6, lines 44-64; col. 46, lines 20-31; col. 46, line 46 – col. 47, line 8) do not disclose

analyses that "permit comparison of entity attribute parameter values over one or more future time instants across simulation runs of different candidate decisions under alternative scenarios," because the simulation disclosed in Eder involves no more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no analyses that "permit comparison of entity attribute parameter values over one or more future time instants across simulation runs of different candidate decisions under alternative scenarios."

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 101 is allowable over Eder.

(14) Claim 102 Is Novel Over Eder

Claim 102 recites, *inter alia*, that "at least one intervention is a strategy, plan, investment, or other proposed course of action for influencing a scenario in a desired manner." The Examiner cites to col. 6, lines 44-64 and col. 46, line 46 – col. 47, line 8, of Eder as purportedly disclosing this feature and argues in the Advisory Action that "the user using the invention of Eder to simulate the effect of particular changes in value drivers ... can be a strategy that is being tested" (p. 3, pgh. 2). However, neither of the cited passages discloses influencing a scenario using a strategy, plan, investment, or other proposed course of action. These passages do describe the use of value drivers in a simulation, but these value drivers, whether their values are system-generated or user-specified, do not include any interventions that are proposed courses of action for influencing scenarios, and a mere set of value drivers is not a strategy or proposed course of action. These value drivers are static, i.e., a one-shot plan (or set of goals that don't necessarily specify how such goals are to be reached), whereas strategies, as claimed in claim 102, include processes over time and can include adaptation, i.e., what to do if the environment changes or if other parties change their strategies/behaviors. There are no such strategies in Eder.

The simulation of Eder does not take into account independent dynamic behaviors of a plurality of actors or entities and is simply not capable of modeling such behaviors, due to the fact that Eder uses only a single set of numerical value drivers for determining financial valuation. As discussed above with respect to claim 64, Eder's approach involves the use of a static behavioral model. Eder describes how, when one or more value drivers are set to certain numeric values, the remaining numeric value drivers change. There is no "at least one intervention that is a strategy, plan, investment, or other proposed course of action for influencing a scenario in a desired manner" and that is being "test-driven" to see how this behavior affects each of the alternative scenarios, as is the case in the present invention, as claimed in claim 102. The present invention provides a dynamic behavioral model – in other words, the candidate decisions represent behaviors of actors or entities in the simulation, and the effects of making these decisions or exercising these behaviors can be seen for a plurality of different possible future sets of circumstances or scenarios. Eder's static behavioral model does not permit this to be done for a plurality of entities or actors – Eder's decision domain model describes only a single entity, the enterprise, and its behaviors for purposes of valuation. Eder does not at all teach a decision domain model wherein "at least one intervention is a strategy, plan, investment, or other proposed course of action for influencing a scenario in a desired manner," as claimed in claim 102.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 102 is allowable over Eder.

(15) Claim 103 Is Novel Over Eder

Claim 103 recites, *inter alia*, that "at least one intervention is a strategy not to influence the alternative scenario parameters." The Examiner cites to col. 46, line 46 – col. 47, line 8, of

Eder as allegedly disclosing this feature. However, the simulation disclosed in Eder involves no more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no strategy not to influence alternative scenario parameters, since alternative scenario parameters do not exist in Eder.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 103 is allowable over Eder.

(16) Claim 110 Is Novel Over Eder

Claim 110 recites, *inter alia*, that "step (a) comprises providing a software development environment for a user to create the decision model, wherein the decision model is application-specific." The Examiner cites to col. 46, line 46 – col. 47, line 8, of Eder as allegedly disclosing this feature and argues in the Advisory Action that "Eder discloses a decision model that is application-specific, that is, it is a decision model specifically designed for the application. Since such a piece of software is disclosed in Eder, a software development environment must have existed to create that software, so that is disclosed by Eder as well" (p. 2, pgh. 3). Nowhere does Eder disclose providing a software development environment to create a decision model, and the Examiner's argument that Eder discloses such an environment is a fabrication of the Examiner, and not a teaching or suggestion of Eder. Indeed, a programming language, such as a language used in creating Eder's financial valuation software, is considerably different from the software development environment as claimed in claim 110, which includes not only languages, but also a set of modeling tools and automatic code generator tools with an associated process. There is no such software development environment in Eder.

Rather, Eder teaches a single application defined by a single, pre-defined model that calculates and displays a forecast of the impact of user-specified or system generated changes in

business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). Unlike the invention as recited in claim 110, which enables the creation of a custom application to assist in the decision-making process, Eder is limited to a single application for a single purpose, whose specifications are set forth in the specification of Eder's patent application. Since Eder does not disclose providing a software development environment for a user to create the decision model, wherein the decision model is application-specific, it cannot be said that Eder anticipates claim 110.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 110 is allowable over Eder.

(17) Claim 116 Is Novel Over Eder

Claim 116 recites, *inter alia*, that "the outcomes include one or more performance metrics to permit selection of an optimal strategy." The Examiner cites to col. 6, lines 44-64 and col. 46, line 46 – col. 47, line 8, of Eder as purportedly disclosing this feature and argues in the Advisory Action that "the user using the invention of Eder to simulate the effect of particular changes in value drivers ... can be a strategy that is being tested" (p. 3, pgh. 4). While these passages do describe the use of value drivers in a simulation, these value drivers, whether their values are system-generated or user-specified, do not include any strategies or other interventions that are proposed courses of action for influencing scenarios, and certainly do not involve the selection of a strategy from among a plurality of strategies, or decision options. As discussed above with respect to claim 102, a strategy is more than Eder's static numbers and represents a set of (possibly adaptive) actions and/or behaviors over time. The performance metrics (i.e., outputs) recited in claim 116 are generated on the fly for various applications. To the contrary, Eder's

outputs are fixed, just like Eder's inputs. Eder simply does not disclose or even suggest the notion of strategy.

The simulation of Eder does not take into account strategies, or independent dynamic behaviors of a plurality of actors or entities, and is simply not capable of modeling such behaviors, due to the fact that Eder uses only a single set of numerical value drivers for determining financial valuation. As discussed above with respect to claim 64, Eder's approach involves the use of a static behavioral model. Eder describes how, when one or more value drivers are set to certain numeric values, the remaining numeric value drivers change. There is no "selection of an optimal strategy," as is the case in the present invention, as claimed in claim 116. The present invention provides a dynamic behavioral model – in other words, the candidate decisions represent behaviors of actors or entities in the simulation, and the effects of making these decisions or exercising these behaviors can be seen for a plurality of different possible future sets of circumstances or scenarios. Eder's static behavioral model does not permit this to be done for a plurality of entities or actors – Eder's decision domain model describes only a single entity, the enterprise, and its behaviors for purposes of valuation.

Eder does not at all teach outcomes that "include one or more performance metrics to permit selection of an optimal strategy," as claimed in claim 116, because Eder employs no such strategies from which to select an optimal strategy. Thus, it cannot be said that Eder anticipates claim 116.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 116 is allowable over Eder.

(18) Claim 119 Is Novel Over Eder

Claim 119 recites, *inter alia*, that "the decision domain is selected from the group

consisting of: structure of legislation, public policy, competitive strategy, change management, portfolio management, military strategy, and corporate governance." The Examiner cites to col. 6, lines 44-64 and col. 46, line 46 – col. 47, line 8, of Eder as purportedly disclosing "competitive strategy" as the decision domain and argues that "since a more highly valued enterprise reflects a greater advantage over competitors, Eder does indeed address making decisions with respect to competitive strategy" (p. 3, pgh. 5). The present invention provides a dynamic behavioral model – in other words, the candidate decisions represent behaviors of actors or entities in the simulation, and the effects of making these decisions or exercising these behaviors can be seen for a plurality of different possible future sets of circumstances or scenarios. Eder's static behavioral model does not permit this to be done for a plurality of entities or actors – Eder's decision domain model describes only a single entity, the enterprise, and its behaviors for purposes of valuation. Eder does not at all teach a simulation involving "competitive strategy," as argued by the Examiner. Competitive strategy involves adaptation (e.g., stimulus-response) or changing in response to performance and perceived changes in a given environment, which is something Eder's software is simply incapable of modeling, and Eder does not ever disclose or even suggest doing so.

"Competitive strategy" is defined, e.g., as "[t]he adoption of a unique position in the marketplace through targeting a specific market and marketing mix" (Lee et al., *Global Marketing Management*, Oxford Univ. Press (2005), originally included in Applicant's amendment filed on 9/28/05, copy attached at APPENDIX B hereto as Exhibit A). "Competitive strategy" is also defined, e.g., as "the triangular positioning of a single offering vis-à-vis a unique set of potential customers and competitors" (Grant, *Contemporary Strategy* Analysis, Blackwell Pubs. (2002), at Exhibit 3.3, originally included in Applicant's amendment

filed on 9/28/05, copy attached at APPENDIX B hereto as Exhibit B). According to *Wharton on Dynamic Competitive Strategy* (Day et al., eds., Wiley & Sons (1997), at pp. 14-15, originally included in Applicant's amendment filed on 9/28/05, copy attached at APPENDIX B hereto as Exhibit C), "four key challenges facing managers in developing competitive strategy" are "(1) Understanding advantages in a changing competitive environment, (2) Anticipating competitors' actions, (3) Formulating dynamic competitive strategies, and (4) Choosing alternative competitive strategies." From the foregoing citations, it is clear that competitive strategy involves the analysis of at least several concepts and factors mentioned therein: marketing and the targeting of certain markets, customers, competitors and the anticipation of competitors' actions, and alternative strategies. The cited portion of Eder does not relate at all to any of these concepts or factors, but rather, merely relates to a financial valuation of a single business.

The simulation of Eder does not take into account strategies, or independent dynamic behaviors of a plurality of actors or entities and is simply not capable of modeling such behaviors, due to the fact that Eder uses only a single set of numerical value drivers for determining financial valuation. As discussed above with respect to claim 64, Eder's approach involves the use of a static behavioral model. Eder describes how, when one or more value drivers are set to certain numeric values, the remaining numeric value drivers change. There is no "competitive strategy," as is the case in the present invention, as claimed in claim 119. The present invention provides a dynamic behavioral model – in other words, the candidate decisions represent behaviors of actors or entities in the simulation, and the effects of making these decisions or exercising these behaviors can be seen for a plurality of different possible future sets of circumstances or scenarios. Eder's static behavioral model does not permit this to be done for a plurality of entities or actors – Eder's decision domain model describes only a single entity, the

enterprise, and its behaviors for purposes of valuation. Eder does not at all teach a simulation involving "competitive strategy," as claimed in claim 119. Nor does Eder disclose any of the other decision domains recited in claim 119, because Eder is limited to the decision domain of financial valuation of a business. Since Eder does not disclose a decision domain "selected from the group consisting of: structure of legislation, public policy, competitive strategy, change management, portfolio management, military strategy, and corporate governance," it cannot be said that Eder anticipates claim 119.

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 119 is allowable over Eder.

(B) CLAIM 70 IS NON-OBVIOUS OVER EDER AND HONAVAR

Claim 70 recites, *inter alia*, that "the attribute parameters are permitted to assume values of any one or more of the following data types: integer or real numbers, symbols, lists, tables, vectors, relationships, interval ranges, free text, and Boolean descriptors." The Examiner cites col. 46, line 46, through col. 47, line 8 of Eder as allegedly disclosing that "the attribute parameters are permitted to assume values of real numbers." However, the list of data types set forth in claim 70 are recited in the conjunctive ("the attribute parameters are permitted to assume values of any one or more of the following data types ..."), not the disjunctive ("each attribute parameters is of a data type selected from the group consisting of ..."). Thus, to satisfy the claim limitations of claim 70, the attribute parameters must be permitted to assume values of any of the recited data types. In Eder, the attribute parameters are permitted to assume only numeric data types. Since Eder fails to disclose or even suggest at all the use of attribute parameters that "are permitted to assume values of any one or more of the following data types: integer or real

numbers, symbols, lists, tables, vectors, relationships, interval ranges, free text, and Boolean descriptors," Eder cannot render obvious claim 70. Nor does Honarvar supply the missing teachings.

The Applicant submits therefore that claim 70 is allowable over Eder and Honarvar.

(C) CLAIMS 71, 72, AND 111 ARE NON-OBVIOUS OVER EDER AND KRAMER

(1) Claim 71 Is Non-Obvious Over Eder and Kramer

Claim 71 recites, *inter alia*, that "attribute parameters have descriptive metadata for user-specified annotations." The Examiner cites to Kramer as disclosing this feature. Kramer, however, is clearly non-analogous art, dealing with the analysis of consumer preferences. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Kramer for guidance regarding metadata. Accordingly, Eder and Kramer cannot properly be combined to render claim 71 obvious.

The Applicant submits therefore that claim 71 is allowable over Eder and Kramer. Since claim 72 depends from 71, it is further submitted that this claim is also allowable over Eder and Kramer for the same reasons discussed above with reference to claim 71.

(2) Claim 72 Is Non-Obvious Over Eder and Kramer

Claim 72 recites, *inter alia,* that "the metadata includes one or more comments about user-specified values for attribute parameters, references to the data sources of the user-specified values, classification as to the user-specified values being known as a fact or as an assumption, and the degree of certainty of an assumption." The Examiner cites to Kramer as disclosing this feature. Kramer, however, is clearly non-analogous art, dealing with the analysis of consumer

preferences. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Kramer for guidance regarding metadata. Accordingly, Eder and Kramer cannot properly be combined to render claim 72 obvious.

The Applicant submits therefore that claim 72 is allowable over Eder and Kramer.

(3) Claim 111 Is Non-Obvious Over Eder and Kramer

Claim 111 recites, *inter alia*, the substeps of:

> (i) using an automated code generator to generate code embodying relational schema and metadata from entity type specifications; and
>
> (ii) editing and executing the code to generate relational schema and metadata for the decision model, wherein the decision model is application-specific.

The Examiner cites to Eder at col. 5, lines 16-30; col. 9, line 41, to col. 10, line 15; and col. 46, line 46, to col. 47, line 8 as disclosing the foregoing steps. However, nowhere in the cited portion of Eder is the use of an automated code generator disclosed, nor is editing executable code disclosed. Rather, Eder teaches a single application defined by a single, pre-defined model that calculates and displays a forecast of the impact of user-specified or system generated changes in business value drivers on other value drivers, elements, financial performance and long-term value of a commercial enterprise, based on information from a detailed valuation of the enterprise (col. 5, lines 1-9). Unlike the invention as recited in claim 111, which enables the creation of a custom application to assist in the decision-making process, Eder is limited to a single application for a single purpose, whose specifications are set forth in the specification of Eder's patent application. Eder simply does not disclose using an automated code generator or editing code to generate relational schema and metadata for a decision model. Nor does Kramer supply the missing teachings.

Moreover, Kramer is clearly non-analogous art, dealing with the analysis of consumer preferences. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Kramer for guidance regarding the use of an automated code generator disclosed, nor the editing of code. Accordingly, Eder and Kramer cannot properly be combined to render claim 111 obvious.

The Applicant submits therefore that claim 111 is allowable over Eder and Kramer.

(D) CLAIM 82 IS NON-OBVIOUS OVER EDER AND HUANG

Claim 82 recites, *inter alia*, that "step (b) comprises storing baseline scenario parameters and permitting user entry of alternative scenario parameters by copying baseline or alternative scenarios and altering one or more of the copied scenario parameters." As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 82. Eder discloses a simulation that involves only a single scenario. The Examiner cites to Huang as disclosing the storage and copying of scenario parameters. However, Huang also fails to disclose the use of more than a single scenario. Thus, there are no "baseline" or "alternative" scenarios or parameters corresponding thereto in Eder or Huang, and consequently, there can be no storage or copying of "baseline scenario parameters" or "alternative scenario parameters."

Additionally, Huang is non-analogous art, dealing with the analysis of managing a supply chain. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Kramer for guidance regarding the storage or copying of scenario parameters.

The Applicant submits therefore that claim 82 is allowable over Eder and Huang.

(E) CLAIM 117 IS NON-OBVIOUS OVER EDER

Claim 117 recites, *inter alia*, that "the optimal strategy is a strategy that displays superior values of performance metrics across the plurality of alternative scenarios." The Examiner does not cite any particular portion of Eder as disclosing this feature, but instead appears to be taking official notice that "the optimal strategy is general [sic] regarded to be the strategy that is predicted to be the most successful," then concluding that it "would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the invention of Eder such that an optimal strategy is a strategy that displays superior values of performance metrics across the plurality of alternative scenarios, as was well-known in the art at the time of applicant's invention." This argument is without any supporting documentary evidence, despite the Applicant's request that the Examiner produce such evidence, and there is no clear technical line of reasoning underlying the Examiner's decision to take such notice. The Applicant therefore respectfully submits that this rejection is improper, pursuant to MPEP section 2144.03(C).

Moreover, as argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 117. Eder does not disclose that "the optimal strategy is a strategy that displays superior values of performance metrics across the plurality of alternative scenarios," because the simulation disclosed in Eder involves no more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder, and thus, there can be no "superior values of performance metrics across the plurality of alternative scenarios."

The Applicant submits therefore that the above discussion provides additional reasons for the assertion that claim 117 is allowable over Eder.

(F) CLAIM 86 IS NON-OBVIOUS OVER EDER AND KIM

Claim 86 recites, *inter alia*, that "the common data exchange format is a comma-delimited spreadsheet export format (CSV) or an extensible markup language (XML) document format." The Examiner cites to Kim as disclosing this feature. Kim, however, is clearly non-analogous art, dealing with the automation of business processes within an organization. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Kim for guidance regarding data exchange formats. Accordingly, Eder and Kim cannot properly be combined to render claim 86 obvious.

The Applicant submits therefore that claim 86 is allowable over Eder and Kim.

(G) CLAIMS 88 AND 93 ARE NON-OBVIOUS OVER EDER AND STEINMAN

(1) Claim 88 Is Non-Obvious Over Eder and Steinman

Claim 88 recites, *inter alia*, that "step (c) comprises applying a parallel discrete-event simulation technique." The Examiner cites to Steinman as disclosing this feature. Steinman, however, is clearly non-analogous art, dealing with a scheme for managing events within a priority queue stored on a computer. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Steinman for guidance regarding simulation techniques. Accordingly, Eder and Steinman cannot properly be combined to render claim 88 obvious.

Moreover, even assuming, *arguendo*, that Eder and Steinman were properly combinable, which they are not, no combination of Eder and Steinman would yield what is claimed in claim 88. Step (c), to which claim 88 refers, recites "(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing

assumptions in alternative scenarios." Nowhere does Eder teach, disclose, or even suggest the simulation of a plurality of scenarios, as fully argued above with reference to claims 64-105. Nor does Steinman supply the missing teachings. Since Eder and Steinman fail to disclose the creation of a plurality of scenarios in a decision domain, Eder and Steinman, whether taken alone or in combination, cannot possibly disclose applying a parallel discrete-event simulation technique to simulate "for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios."

The Applicant submits therefore that claim 88 is allowable over Eder and Steinman.

(2) Claim 93 Is Non-Obvious over Eder and Steinman

Claim 93 recites, *inter alia*, that "step (c) comprises applying an event-based simulation technique." The Examiner cites to Steinman as disclosing this feature. Steinman, however, is clearly non-analogous art, dealing with a scheme for managing events within a priority queue stored on a computer. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Steinman for guidance regarding simulation techniques. Accordingly, Eder and Steinman cannot properly be combined to render claim 93 obvious.

Moreover, even assuming, *arguendo*, that Eder and Steinman were properly combinable, which they are not, no combination of Eder and Steinman would yield what is claimed in claim 93. Step (c), to which claim 93 refers, recites "(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios." Nowhere does Eder teach, disclose, or even suggest the simulation of a plurality of scenarios, as fully argued above with reference to claims 64-105. Nor

does Steinman supply the missing teachings. Since Eder and Steinman fail to disclose the creation of a plurality of scenarios in a decision domain, Eder and Steinman, whether taken alone or in combination, cannot possibly disclose applying an event-based simulation technique to simulate "for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios."

For all of these reasons, the Applicant submits therefore that claim 93 is allowable over Eder and Steinman.

(H) CLAIM 92 IS NON-OBVIOUS OVER EDER AND EICHER

Claim 92 recites, *inter alia*, that "step (c) comprises applying a complex adaptive system or distributed agent simulation technique." The Examiner cites to Eicher as disclosing this feature. Eicher, however, is clearly non-analogous art, dealing with generating alerts in a performance-based supply chain management system. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Eicher for guidance regarding simulation techniques. Accordingly, Eder and Eicher cannot properly be combined to render claim 92 obvious.

Moreover, even assuming, *arguendo*, that Eder and Eicher were properly combinable, which they are not, no combination of Eder and Eicher would yield what is claimed in claim 92. Step (c), to which claim 92 refers, recites "(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios." Nowhere does Eder teach, disclose, or even suggest the simulation of a

plurality of scenarios, as fully argued above with reference to claims 64-105. Nor does Eicher supply the missing teachings. Since Eder and Eicher fail to disclose the creation of a plurality of scenarios in a decision domain, Eder and Eicher, whether taken alone or in combination, cannot possibly disclose applying a complex adaptive system or distributed agent simulation technique to simulate "for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios."

The Applicant submits therefore that claim 92 is allowable over Eder and Eicher.

(I) CLAIM 94 IS NON-OBVIOUS OVER EDER AND BALL

Claim 94 recites, *inter alia*, that "step (c) comprises using a Bayesian inference technique to compound conditional probabilities." The Examiner cites to Ball as disclosing this feature. Ball, however, is clearly non-analogous art, dealing with modeling and projecting emotion and personality from a computer user interface. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Ball for guidance regarding techniques for compounding conditional probabilities. Accordingly, Eder and Ball cannot properly be combined to render claim 94 obvious.

Moreover, even assuming, *arguendo*, that Eder and Ball were properly combinable, which they are not, no combination of Eder and Ball would yield what is claimed in claim 94. Step (c), to which claim 94 refers, recites "(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios." Nowhere does Eder teach, disclose, or even suggest the simulation of a

plurality of scenarios, as fully argued above with reference to claims 64-105. Nor does Ball supply the missing teachings. Since Eder and Ball fail to disclose the creation of a plurality of scenarios in a decision domain, Eder and Ball, whether taken alone or in combination, cannot possibly disclose using a Bayesian inference technique to compound conditional probabilities in "simulating for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios."

The Applicant submits therefore that claim 94 is allowable over Eder and Ball.

(J) CLAIM 97 IS NON-OBVIOUS OVER EDER AND WATANABE

Claim 97 recites, *inter alia*, that "step (c) comprises permitting a user to monitor the progress of the simulation in real time." The Examiner cites to Watanabe as disclosing this feature. Watanabe, however, is clearly non-analogous art, dealing with a scheme for simulating a computer network system. One skilled in the art of Eder, i.e., financial valuation of a business, would not have turned to Watanabe for guidance regarding the real-time monitoring of simulation progress. Accordingly, Eder and Watanabe cannot properly be combined to render claim 97 obvious.

Moreover, even assuming, *arguendo*, that Eder and Watanabe were properly combinable, which they are not, no combination of Eder and Watanabe would yield what is claimed in claim 97. Step (c), to which claim 97 refers, recites "(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios." Nowhere does Eder teach, disclose, or even suggest the

simulation of a plurality of scenarios, as fully argued above with reference to claims 64-105. Nor does Watanabe supply the missing teachings. Since Eder and Watanabe fail to disclose the creation of a plurality of scenarios in a decision domain, Eder and Watanabe, whether taken alone or in combination, cannot possibly disclose permitting a user to monitor the progress, in real time, of "simulating for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios."

The Applicant submits therefore that claim 97 is allowable over Eder and Watanabe.

(K) CLAIM 118 IS NON-OBVIOUS OVER EDER AND ABU EL ATA

Claim 118 recites, *inter alia*,

> (f) updating the alternative scenarios based on the simulated outcome of the selected optimal strategy; and
>
> (g) simulating results of each of an updated plurality of strategies based on the updated alternative scenarios.

As argued above with reference to claims 64-105, Eder fails to disclose the creation of a plurality of scenarios in a decision domain, and the Applicant reasserts these arguments for claim 118. Eder does not disclose the updating of alternative scenarios or the existence of "updated alternative scenarios," because the simulation disclosed in Eder involves no more than a single scenario. The Examiner cites to Abu El Ata as disclosing the foregoing steps. However, Abu El Ata also fails to disclose the use of more than a single scenario. There are no "alternative" scenarios or parameters corresponding thereto in Eder or Abu El Ata, and thus, there can be no "updating the alternative scenarios based on the simulated outcome of the selected optimal

strategy" or "simulating results of each of an updated plurality of strategies based on the updated alternative scenarios."

In rejecting claim 118, the Examiner cites to col. 3, lines 25-44 of Abu El Ata, which states as follows:

> The present invention provides a design methodology and tool for designing optimum IS architectures and optimal IS configurations. In general, the design approach of the present invention starts at a high level of abstraction and moves toward technical requirements to meet a business entity's needs. The first level of abstraction considers business operations referred to as "processes" and "subprocesses". The succeeding level of abstraction couches the processes in terms of application software solutions and components. A next level identifies the physical requirements (e.g., processing speed, memory, storage, etc.) to achieve and support the processes and corresponding application/software components. A final level determines platform specific components/hardware and alternatives. The alternatives provide an iterative feedback loop through the various levels of abstraction and supports "what-if" designing/brainstorming. Comparisons of alternatives and what-if scenarios are with respect to performance criteria at each level, such that an optimal IS architecture and configuration is achieved.

The mention of a "feedback loop" in Abu El Ata is not at all what is claimed in claim 118. This feedback loop accounts for design requirements that do not change over time during the modeling process of Abu El Ata. To the contrary, the present invention, as claimed in claim 118, permits an entire decision or strategy to be revisited periodically using updated information generated by the simulated outcome of a prior optimal decision or strategy, thereby providing robustness over time. The so-called "feedback loop" of Abu El Ata falls short in this regard and cannot be said to teach, disclose, or even suggest the steps of "(f) updating the alternative scenarios based on the simulated outcome of the selected optimal strategy; and (g) simulating results of each of an updated plurality of strategies based on the updated alternative scenarios."

Moreover, Abu El Ata is non-analogous art, dealing with the design of optimal information systems architectures. One skilled in the art of Eder, i.e., financial valuation of a

business, would not have turned to Abu El Ata for guidance regarding the updating of alternative scenario parameters.

The Applicant submits therefore that claim 118 is allowable over Eder and Abu El Ata.

8. CONCLUSION

For the foregoing reasons, Applicant requests that this appeal be sustained, that the pending rejections be reversed, and that all claims pending in the application be allowed.

Respectfully submitted,

Date: 2/20/07

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APPENDIX A

CLAIMS INVOLVED IN THE APPEAL

64. A computer-implemented method for supporting decision-making, the method comprising:

(a) constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, the model constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains;

(b) receiving user-specified (i) baseline scenario parameters defining a baseline scenario, (ii) scenario parameters defining one or more alternative scenarios, and (iii) decision parameters defining one or more candidate decisions, wherein:

each scenario depicts a situation in the decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted,

each of the one or more alternative scenarios represents a possible future into which the baseline scenario could evolve, and

each candidate decision represents an intervention for influencing the alternative scenario parameters defining the one or more alternative scenarios;

(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios; and

(d) for each candidate decision represented by the candidate decision parameters, outputting simulation results based on the alternative scenario parameters corresponding to the

simulated alternative scenarios at one or more future time instants.

65. The invention of claim 64, wherein, for a user to construct a user-specified scenario, the predefined model for the decision domain defines:

(1) one or more types of entities defining one or more types of people, places, things, events, and decision strategies in the decision domain,

(2) one or more attributes for each entity type representing one or more (i) properties of the entity type and (ii) relationships between entity types, and

(3) one or more dynamic behaviors of people, places, things, events, and decision strategies representing sources of change in the decision domain, the dynamic behaviors representing one or more ways entities (i) change over time and (ii) interact with each other, the one or more dynamic behaviors being ascribed to one or more entity types that depict people, places, things, and decision strategies.

66. The invention of claim 64, wherein the user-specified scenario parameters include:

(1) entity parameters identifying a plurality of entities populating the scenario, wherein the entities are instances of the model's entity types,

(2) attribute parameters characterizing one or more of the entities in the scenario, and

(3) relational parameters representing relationships between one or more entities in the scenario.

67. The invention of claim 66, wherein each of the one or more alternative scenarios corresponds to assumptions about one or more situational forces, trends, events, and entity

behaviors that drive a plausible alternative evolution of the baseline scenario over one or more future time instants.

68. The invention of claim 66, wherein the attribute parameters include performance metrics indicating one or more strengths and weaknesses of the one or more candidate decisions at one or more future time instants.

69. The invention of claim 66, wherein the attribute parameters include both numeric and qualitative characteristics of scenario entities.

70. The invention of claim 69, wherein the attribute parameters are permitted to assume values of any one or more of the following data types: integer or real numbers, symbols, lists, tables, vectors, relationships, interval ranges, free text, and Boolean descriptors.

71. The invention of claim 66, wherein attribute parameters have descriptive metadata for user-specified annotations.

72. The invention of claim 71, wherein the metadata includes one or more comments about user-specified values for attribute parameters, references to the data sources of the user-specified values, classification as to the user-specified values being known as a fact or as an assumption, and the degree of certainty of an assumption.

73. The invention of claim 66, wherein the simulation of step (c) is based on situational

dynamics including one or more behavioral rules, formulas, trends, and algorithmic methods characterizing changes in one or more alternative scenario parameters caused by one or more behaviors of one or more entities.

74. The invention of claim 73, wherein the situational dynamics are specified either (i) as pre-defined elements in the decision domain model, (ii) via user-specified attribute parameters, or (iii) both pre-defined elements in the decision domain model and via user-specified attribute parameters.

75. The invention of claim 64, further comprising storing persistently, for each candidate decision represented by the candidate decision parameters, scenario parameters corresponding to baseline and alternative scenarios received in step (b).

76. The invention of claim 64, further comprising storing persistently, for outputs produced by simulations of alternative scenarios and candidate decisions over one or more future time instants, all changes in scenario entities and attribute parameters of the scenario entities simulated in step (c).

77. The invention of claim 64, wherein step (d) comprises graphically displaying one or more summaries of changes in alternative scenario parameters corresponding to the simulated alternative scenarios over one or more future time instants for purposes of analyzing projected outcomes of simulated candidate decisions.

78. The invention of claim 77, wherein the summaries are produced in graphic plot or tabular report formats based on user-specified queries.

79. The invention of claim 77, wherein the summaries enable comparative analysis of one or more differences, strengths and weaknesses of candidate decisions in achieving desired results across alternative scenarios.

80. The invention of claim 64, wherein step (b) comprises permitting user entry of one or more scenario parameters and candidate decision parameters.

81. The invention of claim 80, wherein step (b) comprises permitting user entry of one or more scenario parameters and candidate decision parameters by means of one or more graphically-displayed controls.

82. The invention of claim 64, wherein step (b) comprises storing baseline scenario parameters and permitting user entry of alternative scenario parameters by copying baseline or alternative scenarios and altering one or more of the copied scenario parameters.

83. The invention of claim 64, wherein step (b) comprises permitting automated import of one or more scenario parameters and candidate decision parameters from one or more external sources.

84. The invention of claim 83, wherein the one or more external sources includes an

interface to a database.

85. The invention of claim 83, wherein the one or more external sources includes one or more files in a common data exchange format.

86. The invention of claim 85, wherein the common data exchange format is a comma-delimited spreadsheet export format (CSV) or an extensible markup language (XML) document format.

87. The invention of claim 64, wherein step (b) comprises permitting automated import of one or more scenario parameters and candidate decision parameters from a library of previously stored scenario entities.

88. The invention of claim 64, wherein step (c) comprises applying a parallel discrete-event simulation technique.

89. The invention of claim 64, wherein step (c) comprises applying a statistical-simulation technique.

90. The invention of claim 89, wherein the statistical-simulation technique is a Monte Carlo simulation.

91. The invention of claim 64, wherein step (c) comprises applying a system dynamics

simulation technique.

92. The invention of claim 64, wherein step (c) comprises applying a complex adaptive system or distributed agent simulation technique.

93. The invention of claim 64, wherein step (c) comprises applying an event-based simulation technique.

94. The invention of claim 64, wherein step (c) comprises using a Bayesian inference technique to compound conditional probabilities.

95. The invention of claim 64, wherein step (c) comprises applying a combination of two or more simulation techniques in projecting scenario dynamics.

96. The invention of claim 64, wherein step (c) is performed by a framework containing a set of simulation techniques and adapted to receive and use one or more new simulation techniques performed based on simulation technique parameters specified by a user.

97. The invention of claim 64, wherein step (c) comprises permitting a user to monitor the progress of the simulation in real time.

98. The invention of claim 64, wherein step (c) comprises permitting a user to pause simulations, inspect performance metrics and other scenario and decision parameters, interactively

change scenario and decision parameters, and resume simulations.

99. The invention of claim 64, wherein step (d) comprises permitting a user to interactively specify one or more analyses to perform.

100. The invention of claim 99, wherein the analyses include one or more (i) graphic time series and histogram charts of scenario attributes and (ii) tabular reports summarizing changes in entity attribute parameter values over one or more future time instants.

101. The invention of claim 99, wherein the analyses permit comparison of entity attribute parameter values over one or more future time instants across simulation runs of different candidate decisions under alternative scenarios.

102. The invention of claim 64, wherein at least one intervention is a strategy, plan, investment, or other proposed course of action for influencing a scenario in a desired manner.

103. The invention of claim 64, wherein at least one intervention is a strategy not to influence the alternative scenario parameters.

104. A computer system for supporting decision-making, the system comprising:

(a) means for constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, the model constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains;

(b) means for receiving user-specified (i) baseline scenario parameters defining a baseline scenario, (ii) scenario parameters defining one or more alternative scenarios, and (iii) decision parameters defining one or more candidate decisions, wherein:

each scenario depicts a situation in the decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted,

each of the one or more alternative scenarios represents a possible future into which the baseline scenario could evolve, and

each candidate decision represents an intervention for influencing the alternative scenario parameters defining the one or more alternative scenarios;

(c) means for simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios; and

(d) for each candidate decision represented by the candidate decision parameters, means for outputting simulation results based on the alternative scenario parameters corresponding to the simulated alternative scenarios at one or more future time instants.

105. A machine-readable medium, having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method for supporting decision-making, the method comprising the steps of:

(a) constructing a model of a decision domain for creating a plurality of scenarios in the decision domain, the model constructed based on a received selection of a predefined model from among a plurality of predefined models of decision domains;

(b) receiving user-specified (i) baseline scenario parameters defining a baseline scenario, (ii) scenario parameters defining one or more alternative scenarios, and (iii) decision parameters defining one or more candidate decisions, wherein:

each scenario depicts a situation in the decision domain for which one or more candidate decisions potentially affecting the corresponding scenario parameters could be adopted,

each of the one or more alternative scenarios represents a possible future into which the baseline scenario could evolve, and

each candidate decision represents an intervention for influencing the alternative scenario parameters defining the one or more alternative scenarios;

(c) simulating, for one or more future time instants, each of the one or more alternative scenarios as influenced by (i) each candidate decision represented by the candidate decision parameters and (ii) parameters characterizing assumptions in alternative scenarios; and

(d) for each candidate decision represented by the candidate decision parameters, outputting simulation results based on the alternative scenario parameters corresponding to the simulated alternative scenarios at one or more future time instants.

106. A computer-implemented method of constructing a decision-support application for a decision domain, the method comprising:

(a) constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain, the decision model comprising a plurality of decision-model entity classes;

(b) creating specifications for linking the plurality of decision-model entity classes to a

decision-support simulator framework;

(c) populating an application database for the decision domain based on the plurality of decision-model entity classes; and

(d) compiling the application database and the specifications to generate the decision-support application, wherein the decision-support application is executable under the decision-support simulator framework.

107. The invention of claim 106, wherein the plurality of decision-model entity classes comprising a scenario class have a plurality of associated classes, each entity class further defined by (i) one or more entity attributes characterizing one or more ~~of the~~ entities in the scenario class, (ii) one or more relationship attributes representing relationships between one or more entities in the scenario class, and (iii) one or more class interfaces defining methods representing entity behaviors and dynamic interactions.

108. The invention of claim 106, wherein the decision-model entity classes are types defined by one or more object-oriented programming languages.

109. The invention of claim 108, wherein the one or more object-oriented programming languages include one or more of Java, C++, and C#.

110. The invention of claim 106, wherein step (a) comprises providing a software development environment for a user to create the ~~application-specific~~ decision model, wherein the decision model is application-specific.

111. The invention of claim 106, wherein step (c) comprises:

(i) using an automated code generator to generate code embodying ~~the~~ relational schema and metadata from entity type specifications; and

(ii) editing and executing the code to generate relational schema and metadata for the decision model, wherein the decision model is application-specific.

112. The invention of claim 106, further comprising creating one or more application-specific reports for organizing simulation output, wherein the compiling in step (d) comprises compiling the one or more application-specific reports.

113. A computer system for constructing a decision-support application for a decision domain, the system comprising:

(a) means for constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain, the decision model comprising a plurality of decision-model entity classes;

(b) means for creating specifications for linking the plurality of decision-model entity classes to a decision-support simulator framework;

(c) means for populating an application database for the decision domain based on the plurality of decision-model entity classes; and

(d) means for compiling the application database and the specifications to generate a decision-support application that is executable under the decision-support simulator framework.

114. A machine-readable medium, having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method for constructing a decision-support application for a decision domain, the method comprising the steps of:

(a) constructing a decision model of the decision domain for creating a plurality of scenarios in the decision domain, the decision model comprising a plurality of decision-model entity classes;

(b) creating specifications for linking the plurality of decision-model entity classes to a decision-support simulator framework;

(c) populating an application database for the decision domain based on the plurality of decision-model entity classes; and

(d) compiling the application database and the specifications to generate a decision-support application that is executable under the decision-support simulator framework.

115. A computer-implemented method of supporting decision-making for a decision domain, the method comprising:

(a) generating, based on user input, a plurality of alternative scenarios representing possible evolutions of a baseline scenario;

(b) generating, based on user input, a plurality of strategies for influencing the alternative scenarios;

(c) simulating outcomes of each of the strategies for each of the alternative scenarios over time; and

(d) providing output data, based on the simulated outcomes, to permit comparison of the

simulated outcomes for each of the strategies.

116. The invention of claim 115, wherein the outcomes include one or more performance metrics to permit selection of an optimal strategy, and wherein step (d) further comprises outputting one or more performance metrics.

117. The invention of claim 116, wherein the optimal strategy is a strategy that displays superior values of performance metrics across the plurality of alternative scenarios.

118. The invention of claim 115, further comprising:

(e) changing and refining the plurality of strategies based on comparisons of the strategies and the projected outcomes of the strategies;

(f) updating the alternative scenarios based on the simulated outcome of the selected optimal strategy; and

(g) simulating results of each of an updated plurality of strategies based on the updated alternative scenarios.

119. The invention of claim 115, wherein the decision domain is selected from the group consisting of: structure of legislation, public policy, competitive strategy, change management, portfolio management, military strategy, and corporate governance.

120. A computer system for supporting decision-making, the system comprising:

(a) means for generating, based on user input, a plurality of alternative scenarios

representing possible evolutions of a baseline scenario;

(b) means for generating, based on user input, a plurality of strategies for influencing the alternative scenarios;

(c) means for simulating outcomes of each of the strategies for each of the alternative scenarios over time to permit comparison of the simulated outcomes; and

(d) means for providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies.

121. A machine-readable medium, having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method of supporting decision-making, the method comprising the steps of:

(a) generating, based on user input, a plurality of alternative scenarios representing possible evolutions of a baseline scenario;

(b) generating, based on user input, a plurality of strategies for influencing the alternative scenarios;

(c) simulating outcomes of each of the strategies for each of the alternative scenarios over time to permit comparison of the simulated outcomes; and

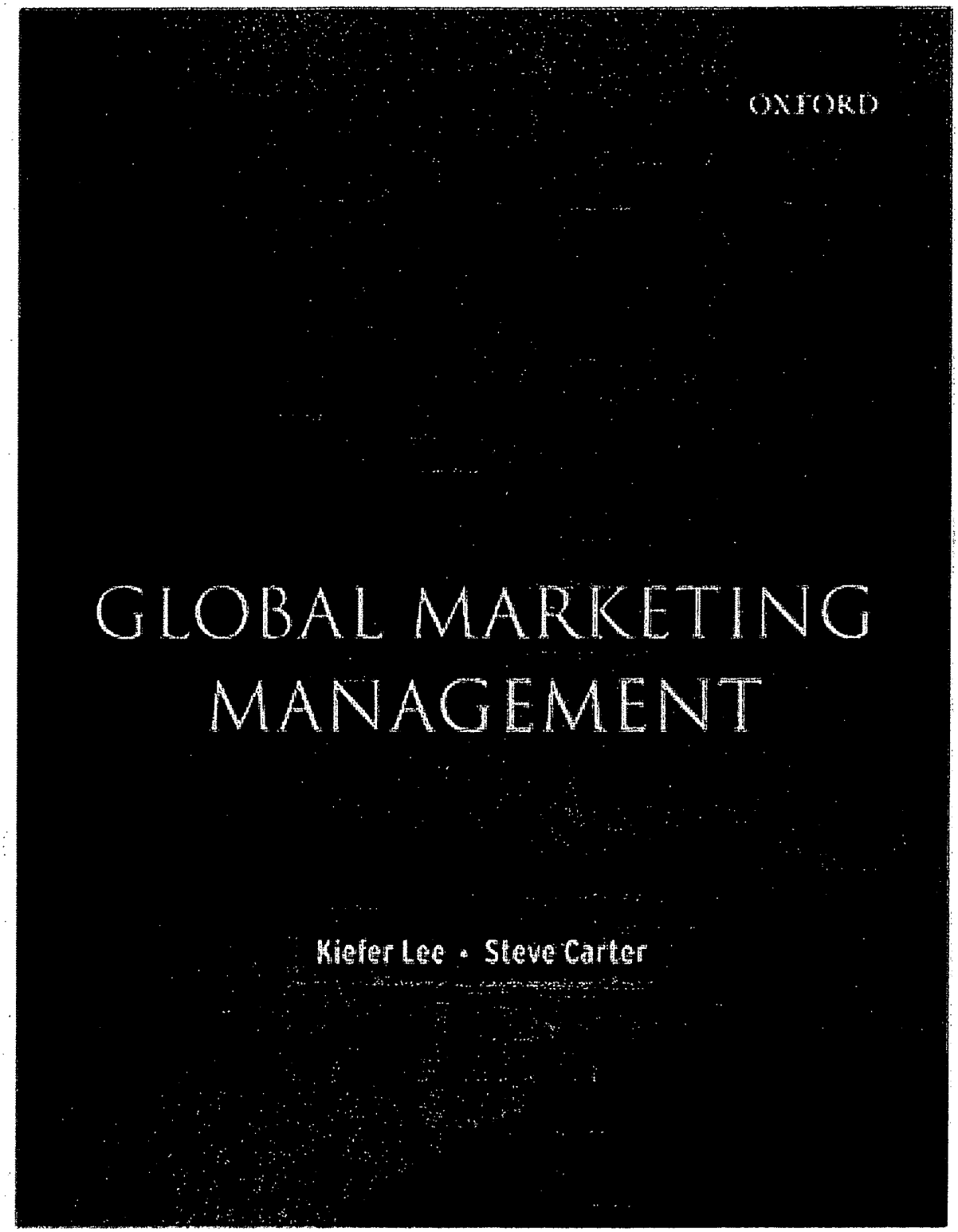
(d) providing output data, based on the simulated outcomes, to permit comparison of the simulated outcomes for each of the strategies.

APPENDIX B

EVIDENCE

The attached evidence was entered into the record as part of Applicant's amendment filed on 9/28/05.

EXHIBIT A


OXFORD
GLOBAL MARKETING MANAGEMENT
Kiefer Lee • Steve Carter

mainly according to their material composition, into a simplified classification system for tariff administration.

Budget An amount of money set aside to cover the total cost of a marketing campaign or functional marketing activity(ies).

C

C.I.F A contract of sale 'cost, insurance, freight' of the documents of title, not the goods, whereby the buyer is under an obligation to pay against the shipping documents irrespective of the arrival of the goods.

Cluster analysis A technique for grouping similarities or differences between a set of objects or persons. Comparative advantage One country enjoying a lower production ratio (i.e inputs to outputs) than another country.

Comparative analysis Comparing the same set of statistics within a category of one country with another for the purpose of estimating potential demand.

Competition A product, organization or individual, in either the same or another category which can be directly substituted one for the other in fulfilling the same needs or wants.

Competitive strategy The adoption of a unique position in the marketplace through targeting a specific market and marketing mix.

Cooperative A collection of organizations or individuals, pooling their resources in order to gain commercial or non-commercial advantage in buying, selling or processing goods and/or services.

Countertrade An agreement by the customer to buy goods on condition that the seller buys some of the customer's own products in return.

Culture The sum total of learned behaviourial characteristics or traits which are manifest and shared by members of a particular society.

Currency swaps A method to gain access to foreign capital at favourable rates in order to offset fluctuations in currency exchanges.

D

Decentralized plans Marketing plans which are prepared on a country-by-country basis to take into account local market conditions.

Demand pattern analysis A technique for analysing patterns of a country's growth rate in different stages of its development.

Devaluation The reduction in the value of one currency vis-à-vis other countries.

EXHIBIT B

CONTEMPORARY STRATEGY ANALYSIS

CONCEPTS, TECHNIQUES, APPLICATIONS

FOURTH EDITION

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EXHIBIT 3.3 Mathur and Kenyon's Approach to Competitive Analysis

Mathur and Kenyon argue that our conventional concept of industry is fundamentally flawed, since entities such as the automobile industry or the banking industry do not correspond to the realities of competition. Their starting point is customer choice. Customers do not choose a product or a company, their unit of choice is the single *offering*. Competitive strategy is "the triangular positioning of a single offering vis-à-vis a unique set of potential customers and competitors." Thus:

- Land Rover's Discovery and Defender models are a separate offerings because they compete for different groups with different preferences and with different competing offerings from other companies. To the extent that customer preferences and the range of competitors are different in France from Canada or Malaysia, then we can regard each model in each country as a separate offering competing in a separate market.
- London's Dorchester Hotel comprises a number of separate offerings: luxury hotel accommodation, restaurant services, cocktail bar drinks, and various personal services and retail products. The customers for these may be much the same, but each will have a separate set of competitors.

The result is a much more micro view of the external environment and competitive strategy than that associated with the conventional industry analysis of Porter and others. Not only are offerings much more narrowly defined than products, but each offering has its own unique market. Given such a finely grained analysis of competition and strategy, a critical issue for the business is the strategic management of *clusters* of offerings.

Does the Mathur and Kenyon approach require us to abandon our conventional industry analysis? It is clear that the more macro-level analysis of markets and industries associated with industrial economics and Michael Porter fails to take account of the specifics of competition at the level of the individual offering. Mathur and Kenyon offer us a far more precise and realistic approach to understanding and analyzing competition in the marketplace. For decisions relating to marketing strategy – including those of product design, pricing, advertising, and distribution – this micro-level analysis of individual offerings in relation to specific groups of customers and competitors is essential.

The case for retaining a more macro-level industry analysis based on a more conventional sectoral analysis rests on two principal grounds. First, if we return to the criterion of substitution, even though products (offerings) may not be close substitutes on the demand side, they may be close substitutes on the supply side. Thus, even though customers may be unwilling to substitute between a four-door sedan, a minivan, and a pick-up truck, if they can all be built using common platforms, drivetrains, and components, then for a wide range of strategic decisions they may be regarded as competing in the same market. Second, this concept of the industry allows us to consider competition in two types of market: in the market for goods and services (output markets) and in the markets for resources (input markets). As we will see when we introduce the *value chain* as an analytic tool, the vertical structure of an industry is an important dimension of strategy analysis.

Source: Shiv Mathur and Alfred Kenyon, *Creating Value: Shaping Tomorrow's Business* (Oxford: Butterworth-Heinemann, 1997).

EXHIBIT C

WHARTON ON DYNAMIC COMPETITIVE STRATEGY

Editors

George S. Day

and

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ments, these approaches are particularly important in helping managers to think through the multiple stages of competitive interactions before making the first move.

- *Signaling and actions.* The options for strategic moves are often broader and deeper than managers realize in formulating strategies. Although managers often focus on direct actions, there are many other aspects of competitive moves, which are highlighted in this book. The role of signals should be carefully considered in formulating strategy and interpreting the moves of competitors. The book also emphasizes the diverse options that managers have in formulating strategies, including developing plans for preemption and choosing among a wide range of different reactions to the moves of rivals.

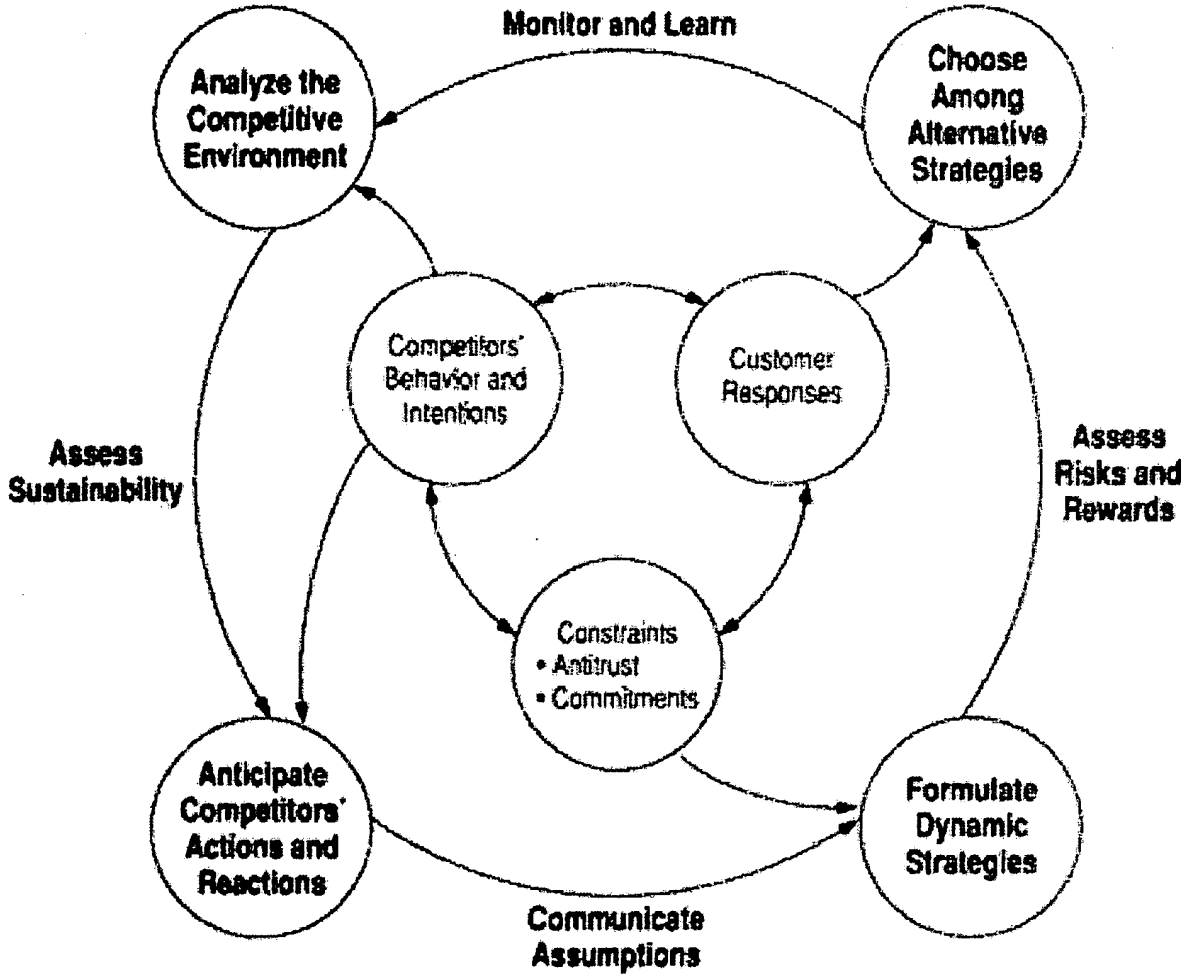
These are just a few of many insights of different disciplines that are brought to bear upon strategic challenges in this book. These perspectives, while largely complementary, are not completely so. There are sometimes lively debates among the participants about the strengths and weaknesses of different views.

KEY MANAGEMENT CHALLENGES

This book is structured around four key challenges facing managers in developing competitive strategy:

1. Understanding advantages in a changing competitive environment.
2. Anticipating competitors' actions.
3. Formulating dynamic competitive strategies.
4. Choosing alternative competitive strategies.

These challenges are illustrated in Figure 1.1. To develop effective strategy, managers need to understand the arena of competition and sources of advantage, anticipate moves of rivals, know their own



competitive options, and analyze the potential impact of a given strategy. The parts of the book look at each of these issues in turn.

Understanding Advantages in a Changing Competitive Environment

The book begins by asking: With whom am I really competing? Many times companies waste precious resources responding to other companies in the same industry, but with whom they are not really competing. To be a true competitor, the firm has to be selling to the same set of customers or market segment and serving some of the same functions. If the firm is selling to a totally different segment, its actions may not

APPENDIX C

RELATED PROCEEDINGS

There are no related proceedings.